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Avadi, Chennai, Tamil Nadu – 600 054

06/01/2023

<u>Submitted to Principal</u>

Respected Sir,

Sub: Permission to conduct Value Added Course - Reg.

The Department of Biotechnology offers a value-added course during the Academic Year 2022-2023 EVEN Semester. In this regard, kindly provide permission to conduct the value-added course in accordance with the schedule given below.

Name of the course with code	Date	Duration in Hours	Availability in Curriculum
BT2301- Mushroom Cultivation	27.01.2023 to 01.02.2023	36 Hours	No

Thanking you,

Permitted

86/01/23

Head of the Department
Department of Biotechnology

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Avadi, Chennai, Tamil Nadu – 600 054

Department of Biotechnology

Circular

20/01/2023

Ref No: SPCET/Biotech/2022-23/EVEN/VAC/BT2301

The Department of Biotechnology has planned to conduct Value Added Course for Six days (6 days) from 27.01.2023 to 01.02.2023 for Biotech students on " BT2301 – Mushroom Cultivation ". The duration of the course is 36 Hours. Students from other departments are permitted to attend the course.

Venue: Seminar Hall, Block VI, SPCET

Course Coordinator

HOD

COPY TO:

- All HODs
- IQAC
- Notice Board

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DEPARTMENT OF BIOTECHNOLOGY

Offers

Value Added Course on

BT2301- Mushroom Cultivation

27.01.2023 to 01.02.2023

Resource Persons

Dr.Andrews Baskaran

Independent Expert

Dr.B.A Gowri Shankar

HoD/Biotech

Dr.M.Chinnapandian

Principal /SPCET

Department of Biotechnology
Value Added Course

BT 2301- Mushroom Cultivation

Resource Person Details

Dr. Andrews Baskaran
Independent Expert

Dr.Andrews has completed his Ph.D in Botany, 2011 from Madurai Kamaraj University, he has his expertise in the field from 1997. He was a research associate-II at NIF, Gandhinagar, Gujarath during 2021.

Mail id: andrews.baskaran@gmail.com
Phone no: +91 9789832236

HOD

Andrews Baskaran

Plot No 51A, B , C, Door No: 1G, Ambiente Paradise,
Aishwarya Nagar, 1st Street, Ayanambakkam,
Chennai -600 095, Tamil Nadu,
India
Email: andrews.baskaran@gmail.com
Mob: **+91 9789832236**

ACADEMIC QUALIFICATION & EXPERIENCE

1. **Ph.D.** in Botany, 2011, thesis entitled "Analysis of Traditional Medicinal Wealth of the Hamlets of Pachaloor, Dindigul District, Tamil Nadu, India". The American college, Affiliated to Madurai Kamaraj University, Madurai, India

   ➢ Documentation of traditional medicinal practices followed local communities was performed with a questionnaire. Eighty-four medicinal plants used to treat 56 human ailments/conditions are recorded through field visits.

   Highlight: Published a detailed paper in *Indian Journal of Traditional Knowledge*, 2010, Vol 9 (2), pp: 264-270. (25 Citations).

   ➢ Antimicrobial screening of selected plant extracts was performed against clinical isolates of bacteria and human pathogenic fungi. Four plant extracts showing antimicrobial property are tested for its phytochemical constituents.

   Highlight: Published a research paper in *World Journal of Microbiology & Biotechnology*, 2000, Vol 16, pp: 617-620 (20 Citations).

2. **M. Phil.** Botany, 2000, V. H. N. Senthikumara Nadar College, Virudhunagar, India (Affiliated to Madurai Kamaraj University, Madurai), India

   Highlight: Presented a paper on "Analysis of the extra-cellular lipase produced from *Aspergillus spp* isolated from spoiled coconut" at national seminar organized by Dr. G.R.Damodaran College of Arts & Science, Coimbatore on 2nd and 3 rd December 2004.

3. **M. Sc.** Botany (**Specialization in Microbiology**), 1999, The American College, Madurai, India.

   Highlight: Presented a paper on "*In vitro* evaluation of selected medicinal plant extracts against human skin pathogens" at *Aqua-terr 99* – Annual Symposium organized by School of Biological Sciences, Madurai Kamaraj University (MKU), Madurai.

4. **B. Sc.** Botany, 1997, The American College, Madurai, India

WORK EXPERIENCE

- Working as **independent expert** with companies undertaking biodiversity/environmental impact assessment studies and also encouraging ethical sourcing of biological materials for research and commercialization.

- National Innovation Foundation (NIF)- India, **Research Associate- II**, Gandhinagar, Gujarat- from 1st May 2019 to 5th July 2021.

Activities:
- Documentation and validation of traditional medicinal knowledge of healers around India.
- Evaluated Grassroot Herbal Knowledge entries of 11th & 12th biennial competition in field of Human Health & Veterinary practices and do Prior Art Search for selected entries for value addition, validation and patenting.
- Reviewed and commented entries received for INSPIRE Award- MANAK award
- Facilitated to get NBA approval for patent applications involving bioresources.

- National Biodiversity Authority (NBA), UNEP-GEF-MoEF ABS Project, India
  Designation: **"Project Consultant"** form 07th Oct 2013 to 28.02.2019.

  Activities:
  - Guided project team members of 10 Indian states in documenting of Traditional Knowledge associated with biological resources systematically.
  - Published and presented many awareness creation materials to stakeholders and public.
  - Shared relevant technical inputs on meeting documents of UN's CBD to MoEFCC, Government of India as reference.

- National Biodiversity Authority (NBA), MoEF&CC, Chennai, India
  Designation: **Expert Consultant on Traditional Knowledge (TK) & Community Participation (CP)** from 01st Mar 2013 to 06th Oct 2013.

  Activities:
  - Prepared introductory papers on "Characteristics of TK related to genetic resources and other forms" and "Mechanism of protection and promotion of Traditional Knowledge".
  - Participated in the expert committee meetings and prepared minutes.
  - Published a book entitled "Explaining and Defining Traditional Knowledge Terminology" (Aug, 2013).

- Worked as **Assistant Professor** in **Biotechnology** Department at Jaya College of Arts and Science, Thiruninravur, Chennai, Tamil Nadu, India from 16th Nov'2009 to 31st Feb 2013.

  Highlight: Produced 100 per cent results in the subjects such as pharmaceutical biotechnology, Bioinformatics and Tissue Engineering.

- Worked as **Lecturer** (Dec'2000 to Nov'2007) at the Department of **Biochemistry** at Rev. Jacob Memorial Christian College, Ambilikkai, Dindigul District, Tamil Nadu, India.

  Highlight: Pass percentage was appreciable. Motivated students in setting up of medicinal plant garden from Eco-club.

PUBLICATIONS

1. Karunyal Samuel J, Andrews B & Shyla Jebashree H (2000) "*In vitro* evaluation of the anti-fungal activity of *Allium sativum* bulb extract against *Trichophyton rubrum*, a human skin pathogen", *World Journal of Microbiology & Biotechnology*, Vol 16, pp: 617-620. (26 Citations)

2. Karunyal Samuel J & Andrews B (2010) "Traditional medicinal plant wealth of Pachalur and Periyur hamlets, Dindigul district, Tamil Nadu", *Indian Journal of Traditional Knowledge*, Vol 9 (2), pp: 264-270. (41 Citations)

3. Published a book entitled "Traditional Knowledge Associated with Biological Resources – A Case Document" and prepared draft compilation of TK cases documented in the replicated project states submitted for publication.

4. Prepared "Local Biodiversity Fund-Operation and Maintenance- A community Dialogue" and it was published and circulated widely in the meetings and exhibitions.

PAPER PRESENTATIONS

1. "*In vitro* evaluation of selected medicinal plant extracts against human skin pathogens" **Andrews B**, Shyla Jebashree H & Karunyal J in *Aqua-terr 99* – Annual Symposium organized by School of Biological Sciences, Madurai Kamaraj University, Madurai.

2. "Analysis of the extra-cellular lipase produced from *Aspergillus spp* isolated from spoiled coconut" **Andrews B**, Rajarathinam K, Karunyal, J in Dr. G.R.Damodaran College of Arts & Science, Coimbatore on 2nd and 3 rd December 2004.

3. "Analysis of phytoconstituents and antioxidant activities of three commonly used medicinal plant extracts" **Andrews Baskaran**, Vel Thanga Sudha R & Bargavi P in University of Madras, Chennai on 27th & 28th January 2012.

4. Under the UNEP-GEF-MoEF&CC ABS project, presentations were given time to time on Traditional Knowledge (TK) associated with biological resources - Access and Benefit Sharing (ABS) to strengthen Biological Diversity Act and Rules.

LABORATORY EXPOSURE

1. Chromatographic techniques: TLC, GC-MS, Column, Paper, HPLC and Bioautography.
2. Isolation and identification of bioactive compounds from plants.
3. DNA isolation and transformation studies.
4. Plant tissue culture techniques.
5. Knowledge in blotting techniques.
6. Electrophoresis, NMR and IR techniques.
7. Microscopic techniques.

SPECIAL ACTIVITIES

➤ Selected to be one of the staff members to participate in a workshop on **"Eradication of child labour"** conducted by AIACHE at Chennai.

➤ Selected to participate on behalf of college management to give suggestions to improve environmental status in and around Dindigul in the preparation of the **"State of environment report"** to be submitted to **Ministry of Environment and Forest, Government of India.**

➤ Participated in a workshop on **"Applied Bioinformatics"** held at Vittal Mallya Scientific Research Foundation, K.R road, Bangalore on 15th Jul'06.

➤ Selected to participate in **43rd Orientation Programme** conducted by **UGC-Academic Staff College** at Madurai Kamaraj University from 8th Nov'05 to 5th Dec'05.

➤ Selected to participate on behalf of college management in national seminar on Emerging Trends and Opportunities in Food Processing Sector at M.O.P Vaishnav College for Women, Chennai on 29th and 30th Jan 2010.

➤ Documenting indigenous/traditional knowledge associated with biological resources for the benefit of the local community.

> Interested in providing scientific validation to all the traditional medicinal information collected during research.

REFERENCES

1. **Dr. Vivek Kumar**
   Scientist E & Senior Innovation Officer,
   National Innovation Foundation – India (NIF),
   Grambharti, Gandhinagar-Mahudi Road,
   Amrapur, Gandhinagar – 382 650
   Gujarat, Tamil Nadu, India
   Tel: +91 2764261131
   E-mail: info@nifindia.org

2. **Dr. J. Karunyal Samuel**
   Former Professor,
   Nagamalai Pudhukottai,
   Madurai- 625 019, Tamil Nadu, India
   Mob: Off: 91-9788770009
   Email: carunyalsamuel@gmail.com

3. **Dr. Alex Rajangam**
   Chief Technology Officer, New Age Meats,
   1345 Ninth St. Berkeley,
   CA 94710, United States
   Email: alex.rajangam@gmail.com
   Contact No: +1 (814) 441-5273

Department of Biotechnology
Value Added Course
BT 2301- Mushroom Cultivation

Course Objective:

- To learn the different types and aspects of mushroom
- To learn how to set-up mushroom bed, and to learn the pre-treatment and maintenance techniques
- To create an entrepreneurship ecosystem

UNIT I - INTRODUCTION TO MUSHROOMS   7 Hrs

Introduction: General history, edible mushrooms and poisonous mushrooms .Common Indian mushrooms; Nutritional values, medicinal values and advantages. Systematic position, morphology, distribution, and structure of various species of mushrooms.

UNIT II - CULTIVATION MUSHROOMS   7 Hrs

Cultivation: Paddy straw mushrooms- substrate, spawn making. Methods: Bed method, polythene bag, field cultivation. Oyster mushroom cultivation- substrate, spawning,. pre treatment of substrate.

UNIT III - MAINTENANCE OF MUSHROOMS   7 Hrs

Maintenance of mushrooms. Diseases- common pests, disease prevention and control measures.Processing-Blanching, steeping, sun drying, canning, pickling, freeze drying. Storage- short term and long term storage

UNIT IV - MAINTENANCE OF MUSHROOMS   7 Hrs

Production level, economic return, foreign exchange from mushrooms. Cultivating countries and international trade. Mushroom based products.

UNIT V - PRACTICAL APPROACHES CARRIED DURING MUSHROOM CULTIVATION   7 Hrs

Practical approaches: Cropping, Harvesting, Packaging- Spawning, Substrate prepration, Pasteurization, Incubation, Colonisation, Pinning, Harvesting.

References

1.Adejumo, T.O. & Awosanya, O.B. (2005). Proximate and mineral composition of four edible mushroom species from South Western Nigeria. African Journal of Biotechnology, 4, 1084- 1088.

2. Fazaeli, H. & Masoodi, A.R.T. (2006). Spent mushroom straw compost of *Agaricus bisporus*

mushroom as ruminant feed. Asian-Australasian Journal of Animal Sciences, 19, 845-851.

3. Growing gourmet and medicinal mushrooms book by Paul Stamets.

4. Organic Mushroom Farming and Mycoremediation: Simple to Advanced and Experimental Techniques for Indoor and Outdoor Cultivation Book by Tradd Cotter

5.The Mushroom cultivator : A Practical Guide to Growing Mushrooms at home by Jeff S. Chilton.

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Department of Biotechnology
Value added Course Schedule
BT-2301 Mushroom Cultivation

Date	Hours	Title of the Course	Resource Person
27/01/23	7 Hrs	Introduction: General history, edible mushrooms and poisonous mushrooms .Common Indian mushrooms; Nutritional values, medicinal values and advantages. Systematic position, morphology, distribution, and structure of various species of mushrooms.	Dr. Andrews Baskaran
28/01/23	7 Hrs	Cultivation: Paddy straw mushrooms-substrate, spawn making. Methods: Bed method, polythene bag, field cultivation. Oyster mushroom cultivation- substrate, spawning,. pre treatment of substrate	Dr. Andrews Baskaran
30/01/23	7 Hrs	Maintenance of mushrooms. Diseases-common pests, disease prevention and control measures.Processing- Blanching, steeping, sun drying, canning, pickling, freeze drying. Storage- short term and long term storage	Dr. Andrews Baskaran
31/01/23	7 Hrs	Production level, economic return, foreign exchange from mushrooms. Cultivating countries and international trade. Mushroom based products.	Dr. Andrews Baskaran
01/02/23	7 Hrs	Practical approaches: Cropping, Harvesting, Packaging- Spawning, Substrate preparation, Pasteurization, Incubation, Colonisation, Pinning, Harvesting.	Dr. Andrews Baskaran
02/02/23	1 Hr	Assessment	Ms. TajSabreen B

Course Coordinator

HOD/ Biotech

Department of Biotechnology

Value Added Course

BT 2301- Mushroom Cultivation

Student Enrolment List

S. No.	Register Number	Name of the Student	Signature
1	112720214001	Abinaya N	
2	112720214002	Anandhi P	
3	112720214003	Ashika Jahana S	
4	112720214004	Dhanalakshmi P	
5	112720214005	Divyashree R	
6	112720214006	Hemesre D	
7	112720214007	Issac Winston J	
8	112720214008	Jaseema M	
9	112720214009	Kamali J	
10	112720214010	Kamali U	
11	112720214011	Koushik Eswaar D	
12	112720214012	Magesha M	
13	112720214013	Nandhini G	
14	112720214014	Rajeswari M	
15	112720214015	Rutick A	
16	112720214016	Saran Kumar P	
17	112720214017	Sreemathy P	
18	112720214018	Suman M	
19	112720214019	Suresh M	
20	112720214020	Valarmathi S	
21	112720214021	Vikram V	
22	112720214022	Yogalakshmi D	

Department of Biotechnology

Value Added Course

BT 2301- Mushroom Cultivation

Student Enrolment List

S. No.	Register Number	Name of the Student	Signature
23	112721214001	Aftin Banu I	
24	112721214002	Athiyamaan P M	
25	112721214003	Deepika T S	
26	112721214004	Gokula Krishnan M	
27	112721214005	Harshitha Preetha B	
28	112721214006	Jack Linden Dass V	
29	112721214007	Jessie Merlin B	
30	112721214008	Kaviya J	
31	112721214009	Krithika P	
32	112721214010	Mukesh Kumar S	
33	112721214011	Nithin Sai K S	
34	112721214012	Preetha Angelina A	
35	112721214013	Rajarajan T P	
3ʋ	112721214014	Shakthi Bhavanee S	
37	112721214015	Sharlie Anamika I	
38	112721214016	Shyam Kumar S	
39	112721214017	Sreebal U	
40	112721214018	Vignesh V	

Course Coordinator

HOD

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Department of Biotechnology
Value Added Course – BT 2301- Mushroom Cultivation
Student's Attendance

S.NO	Reg No.	Name of the Student	27/01/2023	28/01/2023	30/01/2023	31/01/2023	01/02/2023	02/02/2023
1	112720214001	Abinaya N	P	P	P	P	P	P
2	112720214002	Anandhi P	P	P	P	P	P	P
3	112720214003	Ashika Jahana S	P	P	P	P	P	P
4	112720214004	Dhanalakshmi P	P	P	P	P	P	P
5	112720214005	Divyashree R	P	P	P	P	P	P
6	112720214006	Hemesre D	P	P	P	P	P	P
7	112720214007	Issac Winston J	P	P	P	P	P	P
8	112720214008	Jaseema M	P	P	P	P	P	P
9	112720214009	Kamali J	P	P	P	P	P	P
10	112720214010	Kamali U	P	P	P	P	P	P
11	112720214011	Koushik Eswaar D	P	P	P	P	P	P
12	112720214012	Magesha M	P	P	P	P	P	P
13	112720214013	Nandhini G	P	P	P	P	P	P
14	112720214014	Rajeswari M	P	P	P	P	P	P
15	112720214015	Rutick A	P	P	P	P	P	P
16	112720214016	Saran Kumar P	P	P	P	P	P	P
17	112720214017	Sreemathy P	P	P	P	A	P	P
18	112720214018	Suman M	A	P	P	P	P	P
19	112720214019	Suresh M	P	P	P	P	P	P
20	112720214020	Valarmathi S	P	P	P	P	P	P
21	112720214021	Vikram V	P	P	P	P	P	P
22	112720214022	Yogalakshmi D	P	P	P	P	P	P

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Department of Biotechnology
Value Added Course - BT 2301- Mushroom Cultivation
Student's Attendance

S.NO	Reg No.	Name of the Student	27/01/2023	28/01/2023	30/01/2023	31/01/2023	01/02/2023	02/02/2023
23	112721214001	Afrin Banu J	P	P	P	P	P	P
24	112721214002	Athiyamaan P M	P	P	P	P	P	P
25	112721214003	Deepika T S	P	P	P	P	P	P
26	112721214004	Gokula Krishnan M	P	P	P	P	P	P
27	112721214005	Harshitha Preetha B	P	P	P	P	P	P
28	112721214006	Jack Linden Dass V	A	P	P	P	P	P
29	112721214007	Jessie Merlin B	P	P	P	P	P	P
30	112721214008	Kaviya J	P	P	P	P	P	P
31	112721214009	Krithika P	P	P	P	P	P	P
32	112721214010	Mukesh Kumar S	P	A	P	P	P	P
33	112721214011	Nithin Sai K S	P	P	P	P	P	P
34	112721214012	Preetha Angelina A	P	P	P	P	P	P
35	112721214013	Rajarajan T P	P	P	P	P	P	P
36	112721214014	Shakthi Bhavanee S	P	P	P	P	P	P
37	112721214015	Sharlie Anamika I	P	P	P	P	P	P
38	112721214016	Shyam Kumar S	P	P	P	P	P	P
39	112721214017	Sreebal U	P	P	P	P	P	P
40	112721214018	Vignesh V	P	P	P	P	P	P
		Total No of Students	40	40	40	40	40	40
		No of Students Present	38	39	40	39	40	40
		No of Students Absent	2	1	-	1	-	-

Course Coordinator

HOD

Department of Biotechnology

Value Added Course

BT 2301- Mushroom Cultivation

Student Name :   **Register No:**

Semester/ Year: **Date   :**

Answer all the questions:

1. _____ is known as temperature tolerant white button mushroom.

    a. Agaricus
    b. Pleurotus
    c. Voveriella
    d. Agaricus bitorquis

2. Agaricus bisporus belongs to family_____.

    a. Agaricaceae
    b. Malvaceae
    c. Rubiaceae
    d. Solanaceae

3. Basidiospores are_____spores.

    a. exogenous
    b. endogenous
    c. Both a and b
    d. None of these

4. _____toxin is present in Amanita muscaria.

    a. Ibotenic acid
    b. Lactic acid
    c. Acidic acid
    d. All of the above

5. _____is known as 'king oyster mushroom'.

    a.   Pleurotus eryngii

    b.   Volveriella

    c.   Agaricus

    d.   None of the above

6.   Formaldehyde is used as_____in mushroom cultivation.

    a.   Disinfectant
    b.   Fertilizer
    c.   Insect repellant
    d.   Food material

7.   Short method of button mushroom compost preparation requires_____days.

    a.14-18 days

    b.10days

    c.20days

    d. 30days

8 .What is the other name of Mushroom?

    a. Funaria

    b. Dryopteris

    c. Agaricus

    d. Ferus

9. To which division does it belong?

    a. Basidiomycetes

    b. Pteridophyta

    c. Thallophyta

    d. Mollusca

10. Mushroom is:

    a. Saprophytic fungus

    b. Autotrophic Algae

    c. Heterotrophic fungus

    d. None of the above

11. Mycellium produces white or colored umbrella shaped fruiting bodies called:

    a. Haphae

    b. Basidiocarp

    c. Annalus

    d. Seta

12. Basidiocarp consist of a fleshy stalk called_____and umbrella like head borne on its top called _____

    a. Hyphae and Seta

    b. Seta and Annalus

    c. Annalus adn Antheridia

    d. Stipe and Pileus

13. When young fruiting body is completely enveloped by a thin membrane, it is called

    a. Mycelium

    b. Rhizoids

    c. Velum(veil)

    d. Septate

14. With the growth of_____velum gets ruptured, while a part of it remained attached to stipe in the form of ring or_____.

    a. Basidiocarp and Slender

    b. Pileus and Annalus

    c. Pyrenoid and Conjugation

    d. Hyaline and Pyrenoid

15. On the lower side of Pileus number of vertical plates like structure are present called

    a. Spores

    b. Organelles

    c. Mushroom Dryopteris

    d. Gills

16. The gills on either sides bear club shaped basidia which produce_____

    a. Basidiocarp

    b. Chloroplasts

    c. funaria

    d. None of these

17. It grows during _____

    a. Summer season

    b. Winters

    c. Rainy season

    d. In all seasons

18. An edible mushroom is a mushroom that can potentially be safely eaten

    a. True

    b. False

19. Mushrooms are fruit. Do you know which kind of fruit they are?

    a. Mold

    b. Fungus

    c. Blackberry

    d. Cherry

20. What kind of equipment do you need to go mushrooming?

        a.Flat-bottomed basket or box

        b.A roll of waxed paper

        c.A digging tool

        d.All of the above

21. Cropping room consists of

        a.Wall

        b.Roof

        c.Racks

        d. All the above

22. Fungi are different from plants because

        a. They lack organelles

        b.they are unable to fix CO_2

        c.they rely on absorptive nutrition

        d.they are autotrophs

23. Hyphae are

        a.the filamentous growth structures of many fungi

        b.reproduce by the production of embryos

        c.get their nourishment from live organisms

        d.rely on dead matter for nourishment

24. When is second turnaround is started

        a.10th day

        b.11th day

        c.12th day

        d.14th day

25. AHU stands for

   a. Air Handling Unit

   b.Air Hassel Unit

   c.Aeroplane Handling Unit

   d.None of the above

BT 2301 – MUSHROOM CULTIVATION

ANSWER KEY

1	D	11	B	21	D
2	A	12	D	22	B
3	A	13	C	23	A
4	A	14	B	24	A
5	A	15	D	25	A
6	A	16	A		
7	A	17	C		
8	C	18	A		

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Department of Biotechnology

Value Added Course

BT 2301- Mushroom Cultivation

Student Name : Koushik Eswaar. D   **Register No:** 112720214011

Semester/ Year: VI / III   **Date** : 02.02.2023

Answer all the questions:

1. _____ is known as temperature tolerant white button mushroom.

    a. Agaricus
    b. Pleurotus
    c. Voveriella
    d. Agaricus bitorquis

2. Agaricus bisporus belongs to family_____.

    a. Agaricaceae
    b. Malvaceae
    c. Rubiaceae
    d. Solanaceae

3. Basidiospores are_____spores.

    a. exogenous
    b. endogenous
    c. Both a and b
    d. None of these

4. _____toxin is present in Amanita muscaria.

    a. Ibotenic acid
    b. Lactic acid
    c. Acidic acid
    d. All of the above

5. _____ is known as 'king oyster mushroom'.

    a. Pleurotus eryngii

    b. Volveriella

    c. Agaricus

    d. None of the above

6. Formaldehyde is used as_____ in mushroom cultivation.

    a. Disinfectant
    b. Fertilizer
    c. Insect repellant
    d. Food material

7. Short method of button mushroom compost preparation requires_____days.

    a. 14-18 days

    b. 10days

    c. 20days

    d. 30days

8. What is the other name of Mushroom?

    a. Funaria

    b. Dryopteris

    c. Agaricus

    d. Ferus

9. To which division does it belong?

    a. Basidiomycetes

    b. Pteridophyta

    c. Thallophyta

    d. Mollusca

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10. Mushroom is:

    a. Saprophytic fungus

    b. Autotrophic Algae

    c. Heterotrophic fungus

    d. None of the above

11. Mycellium produces white or colored umbrella shaped fruiting bodies called:

    a. Haphae

    b. Basidiocarp

    c. Annalus

    d. Seta

12. Basidiocarp consist of a fleshy stalk called_____and umbrella like head borne on its top called _____

    a. Hyphae and Seta

    b. Seta and Annalus

    c. Annalus adn Antheridia

    d. Stipe and Pileus

13. When young fruiting body is completely enveloped by a thin membrane, it is called

    a. Mycelium

    b. Rhizoids

    c. Velum(veil)

    d. Septate

14. With the growth of_____velum gets ruptured, while a part of it remained attached to stipe in the form of ring or_____.

    a. Basidiocarp and Slender

    b. Pileus and Annalus

    c. Pyrenoid and Conjugation

    d. Hyaline and Pyrenoid

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15. On the lower side of Pileus number of vertical plates like structure are present called

    a. Spores

    b. Organelles

    c. Mushroom Dryopteris

    d. Gills

16. The gills on either sides bear club shaped basidia which produce_____

    a. Basidiocarp

    b. Chloroplasts

    c. funaria

    d. None of these

17. It grows during _____

    a. Summer season

    b. Winters

    c. Rainy season

    d. In all seasons

18. An edible mushroom is a mushroom that can potentially be safely eaten

    a. True

    b. False

19. Mushrooms are fruit. Do you know which kind of fruit they are?

    a. Mold

    b. Fungus

    c. Blackberry

    d. Cherry

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20. What kind of equipment do you need to go mushrooming?

    a.Flat-bottomed basket or box

    b.A roll of waxed paper

    c.A digging tool

    d.All of the above

21. Cropping room consists of

    a.Wall

    b.Roof

    c.Racks

    d. All the above

22. Fungi are different from plants because

    a. They lack organelles

    b.they are unable to fix CO_2

    c.they rely on absorptive nutrition

    d.they are autotrophs

23. Hyphae are

    a.the filamentous growth structures of many fungi

    b.reproduce by the production of embryos

    c.get their nourishment from live organisms

    d.rely on dead matter for nourishment

24. When is second turnaround is started

    a.10th day

    b.11th day

    c.12th day

    d.14th day

25. AHU stands for

    a. Air Handling Unit

    b.Air Hassel Unit

    c.Aeroplane Handling Unit

    d.None of the above

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Value added Course Feedback Form

Name of the Student : J. Issac Winston

Register Number : 112720214007

Year & Semester : IIIrd & VIth

Course Title & Code : Mushroom Cultivation & BT2301

Date : 01.02.23

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

.... No suggestions ....

....

....

....

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Value added Course Feedback Form

Name of the Student : V. Vikram

Register Number : 112720214021

Year & Semester : III / VI

Course Title & Code : BT2301 – Mushroom Cultivator.

Date : 1/2/23

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair				✓	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

.... None ....

....

....

....

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Value added Course Feedback Form

Name of the Student : A. RUTICK

Register Number : 112720214015

Year & Semester : III / VI

Course Title & Code : BT2301 – Mushroom Cultivation

Date : 01/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

.... No Suggestion ....

....

....

....

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Value added Course Feedback Form

Name of the Student : Shah

Register Number : 112720210419

Year & Semester : III / VI

Course Title & Code : Mushroom Culture

Date : 01/2/23

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions: Well done / no suggestion

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Value added Course Feedback Form

Name of the Student   :   P. ANANDHI

Register Number   1127202140002

Year & Semester   III & VI

Course Title & Code   :   BT2301 - Mushroom Cultivation

Date   :   01/02/23

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding			✓		
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course			✓		
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

............................No suggestion..

....

....

....

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Department of Biotechnology
Value Added Course
BT 2301- Mushroom Cultivation

Course Mark Sheet

| S. No.	Register Number	Name of the Student	Marks (100)
1	112720214001	Abinaya N	92
2	112720214002	Anandhi P	96
3	112720214003	Ashika Jahana S	92
4	112720214004	Dhanalakshmi P	88
5	112720214005	Divyashree R	96
6	112720214006	Hemesre D	92
7	112720214007	Issac Winston J	96
8	112720214008	Jaseema M	88
9	112720214009	Kamali J	92
10	112720214010	Kamali U	88
11	112720214011	Koushik Eswaar D	96
12	112720214012	Magesha M	96
13	112720214013	Nandhini G	96
14	112720214014	Rajeswari M	88
15	112720214015	Rutick A	76
16	112720214016	Saran Kumar P	68
17	112720214017	Sreemathy P	68
18	112720214018	Suman M	76
19	112720214019	Suresh M	92
20	112720214020	Valarmathi S	88
21	112720214021	Vikram V	92
22	112720214022	Yogalakshmi D	96

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Department of Biotechnology
Value Added Course
BT 2301- Mushroom Cultivation

Course Mark Sheet

S. No.	Register Number	Name of the Student	Marks (100)
23	112721214001	Aftin Banu I	96
24	112721214002	Athiyamaan P M	88
25	112721214003	Deepika T S	92
26	112721214004	Gokula Krishnan M	76
27	112721214005	Harshitha Preetha B	88
28	112721214006	Jack Linden Dass V	68
29	112721214007	Jessie Merlin B	88
30	112721214008	Kaviya J	84
31	112721214009	Krithika P	80
32	112721214010	Mukesh Kumar S	88
33	112721214011	Nithin Sai K S	92
34	112721214012	Preetha Angelina A	96
35	112721214013	Rajarajan T P	96
36	112721214014	Shakthi Bhavanee S	88
37	112721214015	Sharlie Anamika I	68
38	112721214016	Shyam Kumar S	92
39	112721214017	Sreebal U	88
40	112721214018	Vignesh V	92

No.of Students getting more than 70%	36
% of students getting more than 70%	90%

CO Attainment: Course is successfully completed with the Attainment Level 1

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Rubrics:

Assessment Level	CO's Percentage	Performance	Remarks
Level 1	90-100%	Excellent	All important info adequately delivered and shows proficient understanding of the subject matter
Level 2	80-90%	Very good	Most of the important info are delivered and shows adequate understanding of the subject matter
Level 3	70-80%	Good	Some of the important info are delivered and show basic understanding of the subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered but doesn't show adequate understanding of the subject matter
Level 5	<50%	Poor	None of the important into are delivered and failed to show an understanding of the subject matter

Course Coordinator

HOD-BIOTECH

Principal

Department of Biotechnology
Value added Course Report (2022-2023)

Ref No: SPCET/Biotech/2022-23/EVEN/VAC/BT2301

Course Code and Name	**BT2301-Mushroom Cultivation**
Course Duration	36 Hours
Year Offered	II and III Year Students 2022-2023
Course Coordinator	Ms.TajSabreen B/AP/Biotech
Course Type	Self-framed Course, approved by DepartmentAcademic Council
Curriculum Relevance	Not Available in Curriculum
Number of Students Enrolled	40
Number of Students Appeared	40
Number of Students Passed	40
Date	27/01/2023 to 01/02/2023

Course Outcome

Upon the completion of this course the students will be able to

- To acquire basic knowledge on mushroom types and aspects
- To learn how to set-up mushroom bed and to learn the pre-treatment techniques
- To create an entrepreneurship ecosystem
- To create bio startups and to export high commercial value bio products.

Assessment mode

Scheme of Exam   : MCQ Type

Date of Exam   : 02.02.2023

Course outcome attainment

Course is successfully completed with the Attainment Level 1.

List of Feedback Questions

Q1. The instructor was well prepared for class

Q2. The instructor was organized, well prepared, and used class time efficiently

Q3. The instructor presented course material in a clear manner that facilitated understanding

Q4. This class has increased my interest in this field of study

Q5. The readings were appropriate to the goals of the course

Q6. I have put a great deal of effort into advancing my learning in this course

Q7. I would highly recommend this course to other students

Q8. The grading practices were fair.

Session Photos

Course Feedback

The feedback was obtained from the participants after the course and the detailed feedback analysis were listed below was obtained from the participants after the end of the course and the detailed analysis report are listed below.
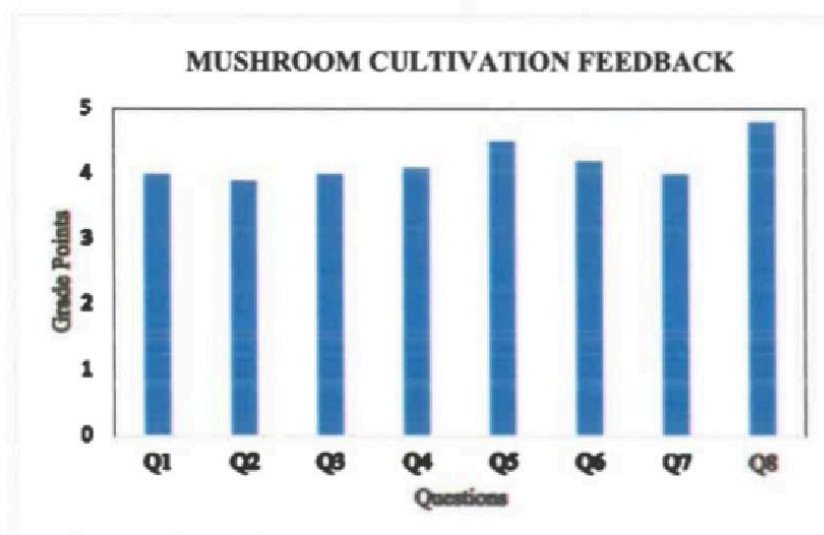
The feedback comments obtained from the participants were put forth in the department meeting and were discussed. The highlighted comments were rectified in the fourth coming related courses.

Course Coordinator

HOD

St.PETER'S
COLLEGE OF ENGINEERING AND TECHNOLOGY

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AVADI, CHENNAI, TAMIL NADU, 600 054.

Certificate of Participation

This is to certify that Mr/Ms __P. ANANDHI__ has successfully

from __III YEAR - BIOTECHNOLOGY__

completed the value added course titled BT-2301 Mushroom Cultivation offered by

the Department of Biotechnology, St.Peter's College of Engineering and Technology,

Avadi, Chennai from 27 January 2023 to 01 February 2023.

PRINCIPAL

HOD

COORDINATOR

St.PETER'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

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Certificate of Participation

This is to certify that Mr/Ms D. KOUSHIK ESWAAR

from III YEAR - BIOTECHNOLOGY has successfully

completed the value added course titled BT-2301 Mushroom Cultivation offered by

the Department of Biotechnology, St.Peter's College of Engineering and Technology,

Avadi, Chennai from 27 January 2023 to 01 February 2023.

PRINCIPAL

HOD

COORDINATOR

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Certificate of Participation

This is to certify that Mr/Ms __V. VIKRAM__

from __III YEAR – BIOTECHNOLOGY__ has successfully

completed the value added course titled **BT-2301 Mushroom Cultivation** offered by

the Department of Biotechnology, St.Peter's College of Engineering and Technology,

Avadi, Chennai from 27 January 2023 to 01 February 2023.

PRINCIPAL

HOD

COORDINATOR

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AVADI, CHENNAI, TAMIL NADU, 600 054.

Certificate of Participation

This is to certify that Mr/Ms __T.S. DEEPIKA__ has successfully

from __II YEAR – BIOTECHNOLOGY__

completed the value added course titled **BT-2301 Mushroom Cultivation** offered by

the Department of Biotechnology, St.Peter's College of Engineering and Technology,

Avadi, Chennai from 27 January 2023 to 01 February 2023.

PRINCIPAL

HOD

COORDINATOR

St.PETER'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

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AVADI, CHENNAI, TAMIL NADU, 600 054.

Certificate of Participation

This is to certify that Mr/Ms _S. SHYAM KUMAR_ has successfully

from _II YEAR – BIOTECHNOLOGY_

completed the value added course titled **BT-2301 Mushroom Cultivation** offered by

the Department of Biotechnology, St.Peter's College of Engineering and Technology,

Avadi, Chennai from 27 January 2023 to 01 February 2023.

PRINCIPAL

HOD

COORDINATOR

DEPARTMENT OF CHEMICAL ENGINEERING

09/01/2023

To

The Principal
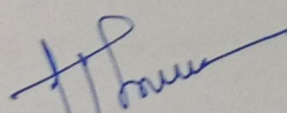
Respected Sir
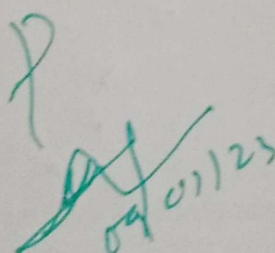
Sub: Permission to conduct Value Added Course - Reg.

The Department of Chemical Engineering offers a value-added course during the Academic Year 2022-2023. In this respect, kindly provide permission to conduct value-added courses in accordance with the schedule given below.

Course Code	Course Name	Period	Duration	Availability in Curriculum
CH2301	Industry Oriented Knowledge Building Program	16/01/2023 to 04/02/2023	34 Hours	No

Thanking you

Head of the Department

DEPARTMENT OF CHEMICAL ENGINEERING

Circular
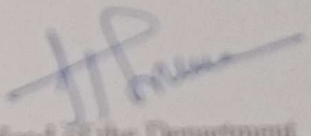
11/01/2023

Ref No: SPCET/Chemical/2022-2023/VAC/CH2301

The Department of Chemical Engineering has planned to conduct a Value Added Course from 16/01/2023 to 02/02/2023 for Chemical Engineering students on "CH2301 - Industry Oriented Knowledge Building Program". The duration of the course is 34 Hours. Students from other departments may enroll in the course if it is relevant to them and is open to anyone who is interested. The students are informed to take advantage of the chance to learn more.

Venue: Block VI, Room No. 259

Course Coordinator

Head of the Department

Copy to:
    All HOD's
    IQAC cell
    Chairperson/Trustee/Secretary kind information

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AVADI, CHENNAI- 600054.

Department of Chemical Engineering

Indian Institute of Chemical Engineers, SPCET-Student Chapter

Organizes

Value Added Course

On

Industry Oriented Knowledge Building Program

from 30/01/2023 to 20/02/2023

Venue: Block VI, Room No. 259
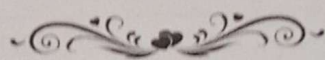
Dr. M.Chinnapandian,
Principal, SPCET

Dr. T.Lasya
Trustee, SPCET

Dr. Mrs.T.Banumathi
Chairperson, SPCET

Dr. T.Namratha
Trustee, SPCET

CONVENOR

Dr. S.Thenesh Kumar,
HoD Chemical Engineering, SPCET

COORDINATOR

Mrs. Sheeba Vinoliya Priyadharshini J
Assistant Professor, Chemical Engineering, SPCET

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DEPARTMENT OF CHEMICAL ENGINEERING

Course Code : CH2301

Course Name : Industry Oriented Knowledge Building Program

Course Coordinator : Mrs. Sheeba Vinoliya Priyadharshini J /AP /Chemical

Course Duration : 34 Hours

Academic Year : 2022-2023

Student Enrollment List

S.No.	Register Number	Student Name	Year	Student Signature
1	112720203001	BALAJI S	III	S. Balaji
2	112720203002	JAGADESH M	III	Jagadish
3	112720203004	LOKESH KUMARAN M N	III	
4	112720203005	MADESH P	III	P. Madesh
5	112720203006	PAVITHRA C	III	C. Pavithra.
6	112720203007	PUJITA J	III	Pujita.
7	112720203008	SWETHA E	III	Swetha.
8	112720203009	YOGESHWARAN R S	III	S. Yogesh r
9	112721203001	ANANDHAKRISHNAN M	II	N. Anthu
10	112721203002	ARCHANA J	II	Arch.
11	112721203004	GOKULA KRISHNAN N	II	N. Croful Kuch
12	112721203005	IRSHATH ALI M	II	M. Irull
13	112721203006	JEGADHISH M	II	M. Jam
14	112721203007	MONICA A	II	A. Monica.

15	112721203008	NITHISH KUMAR S	II	
16	112721203009	PRINCE P	II	
17	112721203010	SIVAKARTHIKEYAN A	II	
18	112721203011	SRIDHARAN P	II	
19	112721203012	SWETHA S	II	
20	112721203301	HEMNATH K	II	
21	112721203303	PRASATH A	II	
22	112721203008	NITHISH KUMAR S	II	
23	112721203009	PRINCE P	II	

Course Coordinator

HoD / Chemical Engineering

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DEPARTMENT OF CHEMICAL ENGINEERING

Name of the Course   : Industry Oriented Knowledge Building Program

Course Code   : CH2301

Course Coordinator   : Mrs. J.Sheeba Vinolia Priyadharshini, AP/ Chemical Engineering

Questionnaire with Answers

1. In case of staged packed bed reactors carrying out exothermic reaction, use
   - (A) High recycle for pure gas
   - (B) Plug flow for dilute liquid requiring no large preheating of feed
   - (C) Cold shot operations for a dilute solution requiring large preheating to bring the stream upto the reaction temperature
   - **(D) All (a), (b) and (c)**

2. The performance equations for constant density systems are identical for
   - (A) P.F.R. and backmix reactor
   - **(B) P.F.R. and batch reactor**
   - (C) P.F.R. batch reactor and backmix reactor
   - (D) Batch reactor and backmix reactor

3. The equilibrium constant of chemical reaction_____in the presence of catalyst.
   - (A) Increases
   - (B) Decreases
   - **(C) Remain unaffected**
   - (D) Can either increase or decrease (depends on the type of catalyst)

4. Study of chemical kinetics is the easiest in the case of_____reactions.
   - **(A) Irreversible**
   - (B) Reversible
   - (C) Surface
   - (D) Side

5. With increase in temperature, the equilibrium conversion of a reversible exothermic reaction
   - **(A) Decreases**
   - (B) Increases
   - (C) Remain unaffected
   - (D) Decreases linearly with temperature

6. The point selectivity of the product 'Y' in the reaction as shown in the bellow figure, is equal to

$$X \xrightarrow{K_1} Y$$
$$X \xrightarrow{K_2} Z$$

(A) K_1/K_2
(B) K_2/K_1
(C) $K_1 - K_2$
(D) $K_2 - K_1$

7. For reaction, $P + 2 \rightarrow 3R$, molar rate of consumption of P is

(A) Double of that of Q
(B) Same as that of Q
(C) Half of that of Q
(D) 2/3rd of that of Q

8. Pick out the wrong statement.

(A) Visible radiation provides the necessary activation energy in photochemical reactions
(B) The order and molecularity of a complex reaction may not be the same
(C) For a second order reaction, the slope of the graph/plot between rate and (concentration) is equal to the rate constant (k)
(D) Molecularity of the reaction is always a whole number greater than zero

9. In a first order reaction, the time required to reduce the concentration of reactant from 1 mole/liter to 0.5 mole/liter will be_____that required to reduce it from 10 moles/liter to 5 moles/liter in the same volume.

(A) More than
(B) Less than
(C) Same as
(D) Data insufficient; can't be predicted

10. An irreversible first order reaction is being carried out in a CSTR and PFR of same volume. The liquid flow rates are the same. The relative conversion will

(A) Be more in CSTR than in PFR
(B) Be more in PFR than in CSTR
(C) Be same in both cases
(D) Depend on the temperature

11. The first order series reaction as shown in the bellow figure is conducted in a batch reactor. The initial concentrations of A, B and C (C_{A0}, C_{B0}, C_{C0} respectively) are all non-zero. The variation of C_B with reaction time will not show a maximum, if

$$A \xrightarrow{K_1} B \xrightarrow{K_2} C$$

(A) $k_2\,C_{B0} > k_1\,C_{A0}$
(B) $k\,C_{A0} > k_2.C_{B0}$
(C) $C_{B0} > C_{A0}$

(D) $C_{A0} > C_{B0}$

12. Three plug flow reactors (PFR's) of 4, 5 & 6 m³ volumes are arranged in two branches as shown below in the figure.

If the total feed rate is 300 tons/hr, then for the same conversion in each branch, the feed rate through branch II should be_____tons/hr.
- (A) 100
- (B) 150
- (C) 200
- (D) 225

13. Participation of_____is involved in the occurrence of a chemical reaction.
- (A) Protons
- (B) Neutrons
- (C) **Electrons**
- (D) None of these

14. The first order gas phase reaction as shown in the bellow figure is conducted isothermally in batch mode. The rate of change of conversion with time is given by

$$A \xrightarrow{k_1} 2B$$

- (A) $dX_A/dt = k_1 (1 - X_A)^2 (1 + 2X_A)$
- (B) $dX_A/dt = k_1 (1 - X_A) (1 + 0.5X_A)$
- (C) **$dX_A/dt = k_1 (1 - X_A)$**
- (D) $dX_A/dt = k_1 (1 - X_A)/(1 + X_A)$

15. A photochemical reaction is_____light.
- (A) **Initiated by**
- (B) Accompanied with emission of
- (C) Catalyzed by
- (D) Used to convert heat energy into

16. The mean conversion in the exit stream, for a second order, liquid phase reaction in a non-ideal flow reactor is given by-A

(A) $\displaystyle\int_0^\infty \frac{k_2 \cdot C_{A_0} \cdot t}{1 + k_2 \cdot C_{A_0} \cdot t} E(t).dt$

(B) $\displaystyle\int_0^\infty \frac{1}{1 + k_2 \cdot C_{A_0} \cdot t} E(t).dt$

(C) $\displaystyle\int_0^\infty \frac{1}{1 + k_2 \cdot C_{A_0} \cdot t} [1 - E(t)] \, dt$

(D) $\displaystyle\int_0^\infty \frac{\exp(-k_2 \, C_{A_0} \cdot t)}{1 + k_2 \cdot C_{A_0} \cdot t} E(t).dt$

17. Fluid flow in a real packed bed can be approximated as_____ model.
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19. The rate of an autocatalytic reaction as shown in the bellow figure, is given by $-r_A = k \cdot C_A \cdot C_B$. In this case, the

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    (A) $L\sqrt{(K/D_i)}$
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    (D) ∞

30. In case of the irreversible unimolecular type, first order reaction, the fractional conversion at any time for constant volume system as compared to variable volume system is

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    (B) Less
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    (A) Single stirred tank (v = 5 liters)
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    (C) 90
    (D) 100

34. Variables affecting the rate of homogeneous reactions are

    (A) Pressure and temperature only
    (B) Temperature and composition only
    (C) Pressure and composition only
    (D) Pressure, temperature and composition

35. For a _____ order reaction, the units of rate constant and rate of reaction are the same.

    (A) Zero
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36. The order of the reaction as shown in the bellow figure, is

$$H_2 + Cl_2 \xrightarrow{\text{Sunlight}} 2HCl$$

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(B) 1
(C) 2
(D) 3

37. A chemical reaction occurs, when the energy of the reacting molecules is_____the activation energy of reaction.
(A) Less than
(B) Equal to
(C) More than
(D) Equal to or more than

38. If a solid-gas non-catalytic reaction occurs at very high temperature, the rate controlling step is the_____diffusion.
(A) Film
(B) Ash layer
(C) Pore
(D) None of these

39. Space velocity
(A) Describes the extensive operating characteristics of a tubular flow reactor
(B) Is the maximum feed rate per unit volume of reactor for a given conversion
(C) Is a measure of the ease of the reaction
(D) All (a), (b) and (c)

40. The heat of reaction
(A) Depends on the pressure only
(B) Depends on the mechanism of reaction only
(C) Depends on both pressure and mechanism of reaction
(D) Is independent of the mechanism of reaction

41. The half life period 't' of a zero order reaction as shown in the bellow figure, is equal to

$$A \xrightarrow{K} \text{Products}$$

(A) $C_{A0}/2K$
(B) C_{A0}/K
(C) $0.693/K$
(D) $1/K$

42. The conversion of a reactant, undergoing a first order reaction, at a time equal to three times the half life of the reaction is:

(A) 0.875

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(D) Data insufficient to calculate

43. Semibatch reactor is preferred, when a/an

(A) A highly exothermic reaction is to be controlled

(B) Undesirable side reaction (at high concentration of one of the reactants) is to be avoided

(C) A gas is to be reacted with liquid (e.g. hydrogenation of fat)

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(A) Sunlight

(B) Darkness

(C) Solid catalysts

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45. In an exothermic reaction, the energy of the reacting substances as compared to that of products is

(A) More

(B) Less

(C) Same

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46. Effectiveness factor (E) of a catalyst pellet is defined as, E = (actual rate within pore of the catalyst)/(rate if not snowed by pore diffusion), Effectiveness factor for a first order reaction is given by (where, T = Thiele modulus)

(A) tan hT/T

(B) tan T/T

(C) tan hT/tan T

(D) None of these

47. B.E.T. method can be used to determine the _____ of a porous catalyst.

(A) Solid density

(B) Pore volume

(C) Surface area

(D) All (a), (b) and (c)

48. The exit age distribution of a fluid leaving a vessel (denoted by E) is used to study the extent of non-ideal flow in the vessel. The value of $\int^\infty$,$E.dt$ is

(A) 0

(B) 1

(C) ∞

(D) √2π

49. On application of pressure to the equilibrium system, ice ⇌ water, which of the following phenomenon will occur?

    (A) Water will evaporate
    (B) Equilibrium will not be attained
    (C) More ice will be formed
    (D) More water will be formed

50. Molecularity of an elementary reaction, $P + Q \rightarrow R + S$ is

    (A) 1
    (B) 2
    (C) 3
    (D) 4

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DEPARTMENT OF CHEMICAL ENGINEERING
Value Added Course
CH2301 - Industry Oriented Knowledge Building Program
Assessment Exam
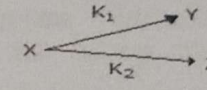
DATE : 20.02.2023

$\frac{41}{50}$

Register Number | 1 | 1 | 2 | 7 | 2 | 0 | 2 | 0 | 3 | 0 | 0 | 9

82 %

Answer all the MCQ's

1. In case of staged packed bed reactors carrying out exothermic reaction, use
   - (A) High recycle for pure gas
   - (B) Plug flow for dilute liquid requiring no large preheating of feed
   - (C) Cold shot operations for a dilute solution requiring large preheating to bring the stream upto the reaction temperature
   - (D) All (a), (b) and (c)

2. The performance equations for constant density systems are identical for
   - (A) P.F.R. and backmix reactor
   - (B) P.F.R. and batch reactor
   - (C) P.F.R. batch reactor and backmix reactor
   - (D) Batch reactor and backmix reactor

3. The equilibrium constant of chemical reaction _____ in the presence of a catalyst.
   - (A) Increases
   - (B) Decreases
   - (C) Remain unaffected
   - (D) Can either increase or decrease (depends on the type of catalyst)

4. Study of chemical kinetics is the easiest in the case of _____ reactions.
   - (A) Irreversible
   - (B) Reversible
   - (C) Surface
   - (D) Side

5. With increase in temperature, the equilibrium conversion of a reversible exothermic reaction
   - (A) Decreases

   - (B) Increases
   - (C) Remain unaffected
   - (D) Decreases linearly with temperature

6. The point selectivity of the product 'Y' in the reaction as shown in the bellow figure, is equal to

   $$X \xrightarrow{K_1} Y$$
   $$X \xrightarrow{K_2} Z$$

   - (A) K_1/K_2
   - (B) K_2/K_1
   - (C) $K_1 - K_2$
   - (D) $K_2 - K_1$

7. For reaction, $P + 2 \rightarrow 3R$, molar rate of consumption of P is
   - (A) Double of that of Q
   - (B) Same as that of Q
   - (C) Half of that of Q
   - (D) 2/3rd of that of Q

8. Pick out the wrong statement.
   - (A) Visible radiation provides the necessary activation energy in photochemical reactions
   - (B) The order and molecularity of a complex reaction may not be the same
   - (C) For a second order reaction, the slope of the graph/plot between rate and (concentration) is equal to the rate constant (k)
   - (D) Molecularity of the reaction is always a whole number greater than zero

9. In a first order reaction, the time required to reduce the concentration of reactant from 1 mole/liter to 0.5

mole/liter will be _____ that required to reduce it from 10 moles/liter to 5 moles/liter in the same volume.
- (A) More than
- (B) Less than
- (C) Same as
- (D) Data insufficient, can't be predicted

10. An irreversible first order reaction is being carried out in a CSTR and PFR of same volume. The liquid flow rates are the same. The relative conversion will
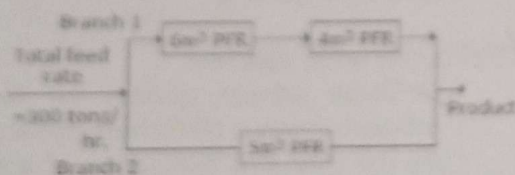- (A) Be more in CSTR than in PFR
- (B) Be more in PFR than in CSTR
- (C) Be same in both cases
- (D) Depend on the temperature

11. The first order series reaction as shown in the bellow figure is conducted in a batch reactor. The initial concentrations of A, B and C (C_{A0}, C_{B0}, C_{C0} respectively) are all non-zero. The variation of C_B with reaction time will not show a maximum, if

$$A \xrightarrow{K_1} B \xrightarrow{K_2} C$$

- (A) $k_2\, C_{B0} > k_1\, C_{A0}$
- (B) $k_1\, C_{A0} > k_2\, C_{B0}$
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12. Three plug flow reactors (PFR's) of 4, 5 & 6 m³ volumes are arranged in two branches as shown below in the figure.

If the total feed rate is 300 tons/hr, then for the same conversion in each branch, the feed rate through branch II should be _____ tons/hr.
- (A) 100
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13. Participation of _____ is involved in the occurrence of a chemical reaction.
- (A) Protons
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- (C) Electrons
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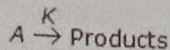
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(D) $\sqrt{2\pi}$

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DEPARTMENT OF CHEMICAL ENGINEERING

Course Code : CH2301

Course Name : Industry Oriented Knowledge Building Program

Course Coordinator : Mrs. Sheeba Vinoliya Priyadharshini J /AP /Chemical

Course Duration : 34 Hours

Academic Year : 2022-2023

Value Added Course Mark Sheet

S.No.	Register Number	Student Name	Marks Obtained
1	112720203001	BALAJI S	92.00
2	112720203002	JAGADESH M	94.00
3	112720203004	LOKESH KUMARAN M N	94.00
4	112720203005	MADESH P	92.00
5	112720203006	PAVITHRA C	86.00
6	112720203007	PUJITA J	88.00
7	112720203008	SWETHA E	92.00
8	112720203009	YOGESHWARAN R S	82.00
9	112721203001	ANANDHAKRISHNAN M	96.00
10	112721203002	ARCHANA J	84.00
11	112721203004	GOKULA KRISHNAN N	96.00
12	112721203005	IRSHATH ALI M	92.00
13	112721203006	JEGADHISH M	94.00
14	112721203007	MONICA A	92.00
15	112721203008	NITHISH KUMAR S	84.00
16	112721203009	PRINCE P	92.00
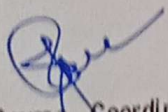
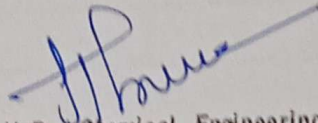| 17 | 112721203010 | SIVAKARTHIKEYAN A | 88.00 |
18	112721203011	SRIDHARAN P	70.00
19	112721203012	SWETHA S	98.00
20	112721203301	HEMNATH K	70.00
21	112721203303	PRASATH A	72.00

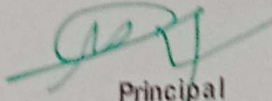| No of students getting more than 70 % | 18 |
| Percentage of students getting more than 70 % | 60 |

CO Attainment: Course is successfully completed with the Attainment level 1

Rubrics:

Assessment Level	CO's Percentage	Performance	Remarks
Level 1	90-100%	Excellent	All important info adequately deliver and shows proficient understanding of the subject matter
Level 2	80-90%	Very Good	Most of the important info are delivered and shows adequate understanding of the subject matter
Level 3	70-80%	Good	Some of the important info are delivered and shows a basic understanding of the subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered but doesn't show adequate understanding of the subject matter
Level 5	<50%	Poor	None of the important info are delivered and failed to show an understanding of the subject matter

Course Coordinator

HoD / Chemical Engineering

Principal

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DEPARTMENT OF CHEMICAL ENGINEERING

Value Added Course - Report

Date: 22/02/2023

Ref No: SPCET/Chemical/2022-23/VAC/CH2301

Course Code and Name	: CH2301 - Industry Oriented Knowledge Building Program Course
Coordinator	: Mrs. J. Sheeba Vinoliya Priyadharshini /AP /Chemical
Course Duration	: 34 Hours
Course Type	: Self Framed Course, approved by Academic Council Year
Offered	: III Year & II Year of Chemical Engineering
Academic Year	: 2022-23
Course Period	: 30/01/2023 to 20/02/2023
Venue	: Block VI, Room No. 263, No of
Students Enrolled	: 21
No of Students Appeared	: 21 No of
Students Passed	: 21

Course Outcome

1) To analyze repeatability, precision and accuracy of the instruments
2) To understand the measurement techniques for pressure
3) To understand the measurement techniques for temperature
4) To understand the measurement techniques for flow and Level
5) To understand the measurement techniques for composition

Assessment Mode

Schedule of Exam	: MCQ Type
Date of Exam	: 20/02/2023

Course outcome attainment

Course is successfully completed with the Attainment Level 1.

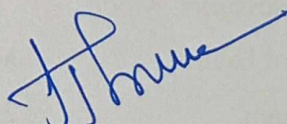## List of Feedback Questions

Q1: The instructor was well prepared for class

Q2: The instructor was organised and used class time efficiently

Q3: The instructor presented course material in a clear manner that facilitated understanding Q4: This class has increased my interest in this field of study

Q5: The readings were appropriate to the goals of the course

Q6: I have put a great deal of effort into advancing my learning in this course Q7: I would highly recommend this course to other students

Q8: The grading practices were fair

Course Feedback Analysis: The feedback from participants were obtained after the course completion and detailed feedback analysis were listed below:
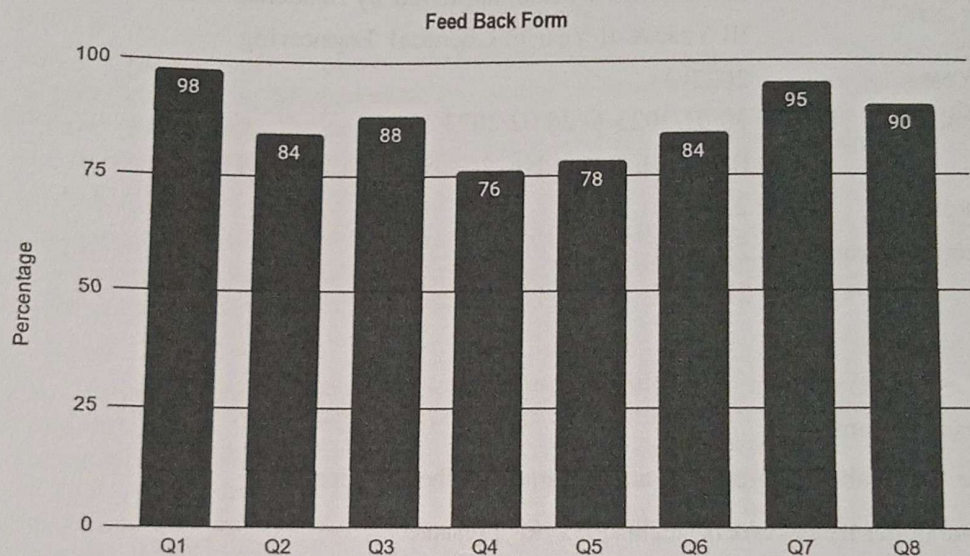
Feed Back Form

Question	Percentage
Q1	98
Q2	84
Q3	88
Q4	76
Q5	78
Q6	84
Q7	95
Q8	90

The feedback comments obtained were put forth in the department meeting and discussed. The drawbacks will be rectified in the forthcoming value added courses.

Mrs. J. Sheeba Vinoliya Priyadharshini
Course Coordinator

Dr. S.Thenesh Kumar
Head of the Department
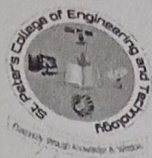
CH 2301 INDUSTRY ORIENTED BUILDING PROGRAM

OBJECTIVE

The course is aimed to

- To introduce the measurement techniques of force, torque and speed.
- To introduce the measurement techniques of acceleration, vibration and density

UNIT 1:

Characteristics of Measurement System - Elements of instruments, static and dynamic characteristics, basic concepts and qualities of measurement, basic concepts of response of first order type instruments, mercury in Glass thermometer

UNIT 2:

Pressure measurement: Pressure, Methods of pressure measurement, Manometers, Elastic pressure transducers, Measurement of vacuum, Force-balance pressure gauges, Electrical pressure transducers, Pressure switches, Calibration of pressure measuring instruments, Maintenance and repair of pressure measuring instruments, Troubleshooting

UNIT 3:

Temperature measurement: Temperature, Temperature scales, Methods temperature measurement, Expansion temperature, Filled-system thermometers, Electrical temperature instruments. Pyrometers: Radiation and optical

UNIT 4:

Flow Measurement: Methods of flow measurement, Inferential flow measurement, Quantity flowmeters, Mass flowmeters, Calibration of flowmeters, Selection of flowmeters. Level measurement: Methods of liquid level measurement, Direct methods, level measurement in pressure vessels, measurement of interface level, level of dry materials. Instruments for Analysis - recording instruments, indicating and signaling instruments, instrumentation diagram

UNIT 5:

Methods of composition analysis: Spectroscopic analysis, Absorption spectroscopy, Emission spectroscopy, Mass spectroscopy

Course Outcomes	
CO-1	To analyze repeatability, precision and accuracy of the instruments
CO-2	To understand the measurement techniques for pressure
CO-3	To understand the measurement techniques for temperature
CO-4	To understand the measurement techniques for flow and Level
CO-5	To understand the measurement techniques for composition
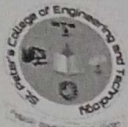
St. PETER'S
COLLEGE OF ENGINEERING AND TECHNOLOGY
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Avadi, Chennai, Tamil Nadu - 600054

Name of the Course : Industry Oriented Knowledge Building Program
Course Code : CH2301
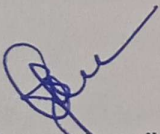Course Coordinator : Mrs. Sheeba Vinoliya Priyadharshini J /AP /Chemical
Course Duration : 34 Hours
Academic Year : 2022-2023

STUDENT ATTENDANCE

No.	Reg No	16/1	17/1	18/1	19/1	20/1	21/1	23/1	24/1	25/1	27/1	28/1	30/1	31/1	1/2	2/2	3/2	4/2
1	112720203001	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	112720203002	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	112720203004	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	112720203005	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	112720203006	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
6	112720203007	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	112720203008	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
8	112720203009	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	112721203001	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	112721203002	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	112721203004	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	112721203005	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
13	112721203006	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	112721203007	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	112721203008	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	112721203009	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
17	112721203010	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	112721203011	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	112721203012	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	112721203301	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
21	112721203303	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P

Course Coordinator

HoD / Chemical Engineering

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DEPARTMENT OF CHEMICAL ENGINEERING

Course Code	:	CH2301
Course Name	:	Industry Oriented Knowledge Building Program
Course Coordinator	:	Mrs. Sheeba Vinoliya Priyadharshini J /AP /Chemical
Course Duration	:	34 Hours
Academic Year	:	2022-2023

FN: 10.30-12.30AM
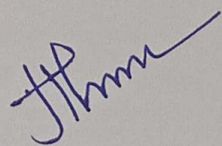
Course Plan

Date	Day	Session	Speaker	Topic
16/01/2023	MON	FN	Mr. S Stalin	Life cycle of a chemical plant
17/01/2023	TUE	FN	Mr. N.Nagarajan	Momentum Transfer Equipment
18/01/2023	WED	FN	Ms. S.Jeyanthi	Industrial Heat transfer equipment
19/01/2023	THU	FN	Mr. K. Rajan	Ultimate Protection & Safeguards
20/01/2023	FRI	FN	Mr. R.Ravi	Process Safety Management
21/01/2023	SAT	FN	Mr. S Stalin	Operation of chemical plants
23/01/2023	MON	FN	Mr. G.M.Williams	Process Simulation
24/01/2023	TUE	FN	Mr. N.S. Murthy, Mr. McKinsey Mr. Umakanthan Anand	Asset Integrity
25/01/2023	WED	FN	Mr. R.Sri Ram	Safety permit system

27/01/2023	FRI	FN	Mr. S.Selvam	Accident reporting, Investigation, RCA
28/01/2023	SAT	FN	Mr. N.Ramadoss	Pollution monitoring&Control and Waste Management
30/01/2023	MON	FN	Dr. Surianarayanan	Emergency preparedness
31/01/2023	TUE	FN	Mr. M.Premkumar	HAZOP & SIL
01/02/2023	WED	FN	Mr. Narasinga Rao	Project management
02/02/2023	THU	FN	Mr. R.Ravi Mr. N.S.Murthy Mr. McKinsey	TQM & Six sigma
03/02/2023	FRI	FN	Mr. R.Sri Ram	Develop an entrepreneur in you and pursue your dreams.
04/02/2023	SAT	FN	Ms.J.Sheeba Vinolia Priyadharshini	Assessment

Course Coordinator

HoD / Chemical Engineering

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DEPARTMENT OF CHEMICAL ENGINEERING

Course Code   : CH2301

Course Name   : Industry Oriented Knowledge Building Program

Course Coordinator   : Mrs. Sheeba Vinoliya Priyadharshini J /AP /Chemical

Course Duration   : 34 Hours

Academic Year   : 2022-2023

Resource Person Details

S.No.	Resource Person Name	External /Internal	Organisation
1	S.Stalin	External	Chem Skill Development Centre
2	Mr N Nagarajan	External	Chairman, Chennai Regional Centre, IIChE.
3	Rajan Kondappan	External	Director- Operations at Inherent Engineering
4	R.Ravi	External	Reliance Industries Limited
5	G.M.Williams	External	Sims info systems pvt ltd
6	N.S.Murthy	External	Reliance Industries Limited
7	Sriram Ramakrishnan	External	Senior HSE MANAGER at Indian Additives Limited
8	S.Selvam	External	Indian Additives Ltd.
9	N.Ramadoss	External	Quality Business Systems ltd
10	Dr.M.Surianarayanan	External	Sr. Principal Scientist, Head & Honorary Faculty - Anna University, CSIR-Central Leather Research Institute
11	M.Premkumar	External	Heading Process Safety function at Indian Additives Ltd.
12	Narasinga Rao	External	Chem Skill Development Centre
13	S.Jayanthi	External	Technip
14	J.Sheeba Vinolia Priyadharshini	Internal	Assistant Professor, Department of Chemical Engineering St.Peters College of Engineering & Technology

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DEPARTMENT OF CHEMICAL ENGINEERING

Value added Course Feedback Form

Name of the Student: MONICA·A

Course Code : CH2301 - Industry Oriented Knowledge Building Program

Date : From 30/01/2023 to 20/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level

5	4	3	2	1
Excellent	Very Good	Good	Fair	Satisfactory

Any other suggestions:

The program was very informative

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DEPARTMENT OF CHEMICAL ENGINEERING

Value added Course Feedback Form

Name of the Student: Pavithra. c

Course Code : CH2301 - Industry Oriented Knowledge Building Program

Date : From 30/01/2023 to 20/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

5	4	3	2	1
Excellent	Very Good	Good	Fair	Satisfactory

Any other suggestions:

The Program is excellent.

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DEPARTMENT OF CHEMICAL ENGINEERING

Value added Course Feedback Form

Name of the Student: Anandha Krishnan. M

Course Code : CH2301 - Industry Oriented Knowledge Building Program

Date : From 30/01/2023 to 20/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level

5	4	3	2	1
Excellent	Very Good	Good	Fair	Satisfactory

Any other suggestions:

Course is Very informative

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DEPARTMENT OF CHEMICAL ENGINEERING

Value added Course Feedback Form

Name of the Student: YOGESHWARA. R.S

Course Code : CH2301 - Industry Oriented Knowledge Building Program

Date : From 30/01/2023 to 20/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class		✓			
2	The instructor was organized and used class time efficiently			✓		
3	The instructor presented course material in a clear manner that facilitated understanding		✓		✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course			✓		
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair					✓

Grading level

5	4	3	2	1
Excellent	Very Good	Good	Fair	Satisfactory

Any other suggestions:

This course is very useful and job oriented pratice for me to upgrade my career level

DEPARTMENT OF CHEMICAL ENGINEERING

Value added Course Feedback Form

Name of the Student: Luther S

Course Code   : CH2301 - Industry Oriented Knowledge Building Program

Date   : From 30/01/2023 to 20/02/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class		✓			
2	The instructor was organized and used class time efficiently			✓		
3	The instructor presented course material in a clear manner that facilitated understanding			✓	✓	
4	This class has increased my interest in this field of study			✓		
5	The readings were appropriate to the goals of the course			✓		
6	I have put a great deal of effort into advancing my learning in this course			✓		
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair		✓			

Grading level

5	4	3	2	1
Excellent	Very Good	Good	Fair	Satisfactory

Any other suggestions:

Need more Interaction with the students and more video representation about the topics

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Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

_____

_____

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya Priyadharshini J	Dr. S.Thenesh Kumar	Dr. M.Chinnapandian
Course Coordinator	Professor and Head	Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.

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Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

MADESH . P

of Third Year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya Priyadharshini J	Dr. S. Thenesh Kumar	Dr. M. Chinnapandian
Course Coordinator	Professor and Head	Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai. ISO 9001-2015 Certified and Accredited by NAAC with 'A' Grade)

Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

PAVITHRA · C

of Third Year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya
Priyadharshini J
Course Coordinator

Dr. S. Thenesh Kumar
Professor and Head

Dr. M. Chinnapandian
Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai. ISO 9001-2015 Certified and Accredited by NAAC with 'A' Grade)

Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

ARCHANA · J

of second year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya
Priyadharshini J
Course Coordinator

Dr. S. Thenesh Kumar
Professor and Head

Dr. M. Chinnapandian
Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.

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Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

MONICA · A

of second year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya
Priyadharshini J
Course Coordinator

Dr. S.Thenesh Kumar
Professor and Head

Dr. M.Chinnapandian
Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.

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Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

PRINCE . P

of second year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya
Priyadharshini J
Course Coordinator

Dr. S.Thenesh Kumar
Professor and Head

Dr. M.Chinnapandian
Principal

St. Peter's College of Engineering and Technology, Avadi, Chennai-54.
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Department of Chemical Engineering & IIChE – SPCET Student Chapter

Certificate of Participation

This is to Certify that

PRINCE . P.

of second year / Chemical Engineering

Has successfully completed the Value Added Course titled "CH2301 - Industry Oriented Knowledge Building Program" organized by the Department of Chemical Engineering, St. Peter's College of Engineering & Technology from 30/01/2023 to 20/02/2023.

Mrs. Sheeba Vinoliya
Priyadharshini J
Course Coordinator

Dr. S.Thenesh Kumar
Professor and Head

Dr. M.Chinnapandian
Principal

C1.2.1 - Value Added Course

Department of Civil Engineering

Circular

21.04.2023

Ref No: SPCET/CIVIL/2022-2023/EVEN/VAC/CE2301

The Department of Civil Engineering has planned to conduct Value Added Course for Five days from 27.04.2023 to 04.05.2023 for Civil & Aeronautical students on "CE2301 – Revit Architecture". The duration of the course is 40 Hours. Students from other departments may enroll in the course if it is relevant to them and is open to anyone who are interested. The students are told to take advantage of the chance to learn more.

Venue: Seminar Hall, BLOCK III

Course Coordinator   HoD   Principal

Copy to:

      All department HOD's
      All Class Advisors
      Main Notice board/ Library Notice board/ Office
      Chairperson/Trustee/Secretary

29.03.2023

Submitted to the Principal

Respected Sir,

Sub: Permission to conduct Value Added Course - Reg.

The Department of Civil Engineering offers a value-added course during the Academic Year 2022-2023 Even Semester. In this respect, kindly provide permission to conduct value-added courses in accordance with the schedule given below.

Name of the course with code	Date	Duration in Hours	Availability in Curriculum
CE2301 - Revit Architecture	27.04.2023 To 04.05.2023	44 Hrs	No

Thanking you

permitted

29/03/23

Head of the Department
Department of Civil Engineering

Value added Course on

CE2301
REVIT ARCHITECTURE

27.04.2023 To 04.05.2023

Coordinator

Ms. L. MARIA MONISHA

Organised by

Department of Civil Engineering

ST. PETER'S COLLEGE OF ENGINEERING & TECHNOLOGY

Affiliated to Anna University, Approved by AICTE,ISO 9001: 2015 Certified

Avadi, Chennai-600 054

Ph: 044-26558089

www.spcet.ac.in

About the Institution

St. Peter's College of Engineering and Technology, a co-educational college was established by Lakshmi Saraswathi Educational Trust in the year 2008. The college aims to impart training to students to develop their Intellectual powers, identify and cultivate interest and talents, and train them to become responsible and eminent citizens of India.

The college is located in a serene environment in Avadi. There are many industries in and around the college including one of the largest industrial estates in Ambattur. The College is easily commutable by bus and train. Annanur railway station, on the Chennai Central- Tiruvallur broad gauge section is just $1^1/_2$ km. from our College. The College also runs busses from different parts of the students. Separate hostel facilities are available for boys and girls.

About the Department of Civil Engineering

The Department of Civil Engineering started in the year 2010 offers Under Graduate degree in Civil Engineering and Post Graduate degree in Structural Engineering courses with well qualified faculties and well equipped laboratories.The department has successfully completed three faculty Development Programmes, sixNational Conferences / Workshops, One International Conference and all the programmes were supported by the Central Government funding ageucies such as AICTE, DRDO, CSIR, ICMR and BRIS.

Sessions

Day	Session	Description
1	Theory	Introduction To Revit
2	Theory	Preliminary Design & Architectural Modelling
	Hands on Training	Software
3	Theory	Structural Modelling
	Hands on Training	Software
4	Theory	Documenting The Project
	Hands on Training	Software
5	Theory	Rendering
6	Assessment	MCQ

Course Objective:

To impart knowledge on

- This course covers the feature of Revit Architecture 2013, from schematic design through construction documents. You will be introduced to the concept of Building information modelling (BIM) and the tools for parametric building design and documentation.

Course Outcome:

At the end of the course, the students will be able to

- To enable the students to create full 3D architectural projects and set them up in working drawings.

Resource Persons

Dr.P.Partheeban

Dean Planning and management

Department of Civil Engineering

Chennai Institute of Technology

CE2301 - REVIT ARCHITECTURE

Course Objective:

To impart knowledge on

- This course covers the feature of Revit Architecture 2013, from schematic design through construction documents. You will be introduced to the concept of Building information modelling (BIM) and the tools for parametric building design and documentation.

Course Outcome:

At the end of the course, the students will be able to

- To enable the Students to know the interface of Software and the tools used to Design
- To learn the Students about to Draw Various Basic Structural Elements with Revit tools
- To enable the students to create full 3D architectural projects and set them up in working drawings.
- To Learn the Students about How to Render the 3D Sketch

UNIT -1: INTRODUCTION TO REVIT

Building model information - About Revit Architecture - Parametric Relationships - Understanding Revit Terms - Element behaviour in parametric modeller - Element Properties - User interface

UNIT-2: PRELIMINARY DESIGN & ARCHITECTURAL MODELLING

Site Settings - Top surfaces - Property Lines - Building Pads - Parking Components - Site Components - Contour Line labels - Conceptual design environment Walls - Doors and Windows - Components - Architectural Columns - Roofs - Ceilings - Floors - Openings - Model text – Model Lines - Compound structure - Sloped Surfaces - Circulation - Stairs - Ramps - Railings - Curtain elements - Rooms and areas - Revit families - Design options.

UNIT 3: STRUCTURAL MODELLING

Beam system - Braces - Trusses - Openings in structural Beam - Brace or Structural columns - Structural walls - Wall foundations - Isolated foundation - Structural floors - Foundation slabs - Shape editing for structural floors, and Floors - Concrete modelling concepts.

UNIT 4: DOCUMENTING THE PROJECT

2D views - 3D Views - Legend Views - Schedules - Visibility and graphic display in project views - Use and mange views - Project phasing - Annotating - Detailing - Preparing - construction documents.

UNIT 5: RENDERING

Rendering - Walk through - Share the design.

DEPARTMENT OF CIVIL ENGINEERING

CE2301 – REVIT ARCHITECTURE

Student Enrolment List

S. NO.	REG. NO.	NAME OF THE STUDENT	SIGNATURE
1.	112721103001	ANAND P	
2.	112721103002	ASWIN R	
3.	112721103003	DINESH KUMAR R	
4.	112721103301	JEGATHEEP KANNAN J	
5.	112720103001	AJAYBABU.M	
6.	112720103002	VIGNESHWAREN.G	
7.	112720103301	DHAYALAN.R	
8.	112720103302	KOUSALYA.M	
9.	112720103303	SUBBULAKSHMI.M	
10.	112720103304	SURYA.M	
11.	112720103305	VIGNESH.M	
12.	112719103001	HAMSHAWARTHINI.M	
13.	112719103002	HEPSIBA. T	
14.	112719103003	KRISHNA KUMAR. P	
15.	112719103005	SATHISH. S	
16.	112719103006	A.SWEATHA	
17.	112719103007	A. VIKEY	
18.	112719103301	P.GOKULAN	
19.	112721101001	SHARMILA T	
20.	112721101002	SUMAIYA NUZRATH M	

S. NO.	REG. NO.	NAME OF THE STUDENT	SIGNATURE
21.	112721101003	TRISHA PRIYAVARSHINI G	
22.	112720101001	SEENIVASAN K	
23.	112720101002	SRIDHAR M	
24.	112720101003	YOKESH KUMAR V	
25.	112720101004	YOKESHVARAN V	
26.	112720101301	SURIYA PRAKASH	
27.	112719101001	AADHAVAN A	
28.	112719101002	ALEX K	
29.	112719101003	BALAJI G	
30.	112719101004	DEEPAKRAJ G	
31.	112719101005	DINESHKUMAR G	
32.	112719101006	GOWTHAM G	
33.	112719101007	HARIHARAN D	
34.	112719101009	KALAISELVAN D	
35.	112719101010	KANIMITHRA K	
36.	112719101011	LIBENA M	
37.	112719101012	MANIKANDAN A	
38.	112719101013	NAIRINA JOE L	
39.	112719101014	PRITHIVIRAJ B	
40.	112719101015	SHABNIYA MARY J	
41.	112719101017	SIVA PRASATH R	
42.	112719101018	VASANTH KUMAR P	
43.	112719101019	VELMURUGAN H	
44.	112721413001	AJITH KUMAR. V	

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Avadi, Chennai, Tamil Nadu - 600054

S. NO.	REG. NO.	NAME OF THE STUDENT	SIGNATURE
45.	112721413002	APPORVAN. R	
46.	112721413003	JANAKIRAMAN. R	
47.	112721413004	KARTHIKEYAN. R	
48.	112721413005	KESAVA PIRIYA. M	
49.	112721413006	NANDHINI. R	
50.	112721413007	RAMYA. T. V	
51.	112721413008	SARATH KUMAR. P	
52.	112721413010	VENKATESAN. M	
53.	112721413011	VIJAYA KUMAR. K	
54.	112722413001	ARVIND J	
55.	112722413002	MANIKANDAN E	
56.	112722413003	PASUPATHY C	
57.	112722413004	SASITHARAN S G	

Course Coordinator

HoD - CIVIL

Value added Course Mark Sheet

CE2301 – REVIT ARCHITECTURE

S. NO.	REG. NO.	NAME OF THE STUDENT	MARKS
1.	112721103001	ANAND P	46
2.	112721103002	ASWIN R	48
3.	112721103003	DINESH KUMAR R	42
4.	112721103301	JEGATHEEP KANNAN J	46
5.	112720103001	AJAYBABU.M	48
6.	112720103002	VIGNESHWAREN.G	50
7.	112720103301	DHAYALAN.R	42
8.	112720103302	KOUSALYA.M	46
9.	112720103303	SUBBULAKSHMI.M	44
10.	112720103304	SURYA.M	50
11.	112720103305	VIGNESH.M	48
12.	112719103001	HAMSHAWARTHINI.M	46
13.	112719103002	HEPSIBA. T	48
14.	112719103003	KRISHNA KUMAR. P	46
15.	112719103005	SATHISH. S	40
16.	112719103006	A.SWEATHA	46
17.	112719103007	A. VIKEY	48
18.	112719103301	P.GOKULAN	40
19.	112721101001	SHARMILA T	42
20.	112721101002	SUMAIYA NUZRATH M	44
21.	112721101003	TRISHA PRIYAVARSHINI G	40
22.	112720101001	SEENIVASAN K	46
23.	112720101002	SRIDHAR M	48
24.	112720101003	YOKESH KUMAR V	50
25.	112720101004	YOKESHVARAN V	46
26.	112720101301	SURIYA PRAKASH	46
27.	112719101001	AADHAVAN A	44
28.	112719101002	ALEX K	44
29.	112719101003	BALAJI G	46

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Value added Course Mark Sheet

CE2301 – REVIT ARCHITECTURE

S. NO.	REG. NO.	NAME OF THE STUDENT	MARKS
30.	112719101004	DEEPAKRAJ G	46
31.	112719101005	DINESHKUMAR G	42
32.	112719101006	GOWTHAM G	46
33.	112719101007	HARIHARAN D	38
34.	112719101009	KALAISELVAN D	46
35.	112719101010	KANIMITHRA K	42
36.	112719101011	LIBENA M	48
37.	112719101012	MANIKANDAN A	42
38.	112719101013	NAIRINA JOE L	44
39.	112719101014	PRITHIVIRAJ B	46
40.	112719101015	SHABNIYA MARY J	48
41.	112719101017	SIVA PRASATH R	40
42.	112719101018	VASANTH KUMAR P	42
43.	112719101019	VELMURUGAN H	50
44.	112721413001	AJITH KUMAR. V	46
45.	112721413002	APPORVAN. R	40
46.	112721413003	JANAKIRAMAN. R	48
47.	112721413004	KARTHIKEYAN. R	48
48.	112721413005	KESAVA PIRIYA. M	40
49.	112721413006	NANDHINI. R	48
50.	112721413007	RAMYA. T. V	40
51.	112721413008	SARATH KUMAR. P	46
52.	112721413010	VENKATESAN. M	44
53.	112721413011	VIJAYA KUMAR. K	40
54.	112722413001	ARVIND J	48
55.	112722413002	MANIKANDAN E	46
56.	112722413003	PASUPATHY C	40
57.	112722413004	SASITHARAN S G	44
57.	112722413004	SASITHARAN S G	

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Value added Course Mark Sheet

CE2301 – REVIT ARCHITECTURE

S. NO.	REG. NO.	NAME OF THE STUDENT	MARKS
58.	112722413005	SWARNA PRIYA A	38

Value added Course Mark Sheet

CE2301 – REVIT ARCHITECTURE

No of Students getting more than 70%	58
% of Students getting more than 70%	100%

CO Attainment: Course is successfully completed with the Attainment Level 1

Rubrics:

Assessment Level	CO's Percentage	Performance	Remarks
Level 1	90-100%	Excellent	All important info adequately delivered and shows proficient understanding of the subject matter
Level 2	80-90%	Very good	Most of the important info are delivered and shows adequate understanding of the subject matter
Level 3	70-80%	Good	Some of the important info are delivered and shows a basic understanding of the subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered but doesn' show adequate understanding of the subject matter
Level 5	<50%	Poor	None of the important info are delivered and failed to show an understanding of the subject matter

Course Coordinator

HoD/Civil

Principal

CE2301 - REVIT ARCHITECTURE

Final Exam Questionnaire

Student Name: _HEPSIBA .T_

Register No: _1127191O3002_

Excellent

48 / 50

25x2=50

Answer all the questions (circle the right answers)

Time – 60 Mins

1. Which command is used to place a free- standing element, such as furniture?

   a) Component
   b) Repeating Detail
   c) Model-In-Place
   d) Detail Components

2. Which statement is FALSE about stair sketches?

   a) Boundary lines must be open lines
   b) Risers must be parallel
   c) The user is provided with the desired riser count
   d) All riser lines must touch the boundary lines

3. Which statement about drafting views is false?

   a) You can adjust view scale and detail level on Drafting Views
   b) Drafting views show the building model
   c) Drafting views are 2D only
   d) You can import CAD files into Drafting Views

4. In which view type can place a level?

   a) Floor Plan
   b) 3D
   c) Elevation
   d) Ceiling Plan

5. Which statement is FALSE?

   a) Text scale with the view
   b) You can paste text from Microsoft word into a text object
   c) Text leaders must be placed separately
   d) Text is view specific

6. What does the small triangle next to the roof boundary line indicate in the roof sketch?

   a) Overhang
   b) Height
   c) Slope
   d) Orientation

7. Which action is NOT possible with a section line?

   a) Cycle thru the display of symbols and the head and tail of the section line
   b) Split the section line
   c) Delete the section line and keep the related section view.
   d) Break the section line

8. Which statement about sheets is FALSE?

   a) Viewports cannot be scaled on a sheet
   b) You can drag a view from the Project Browser onto a sheet
   c) You can delete all the viewports on a sheet
   d) You can delete a title block from a sheet

9. Which parameter of a plan view opens a dialog box to edit the depth of a view?

   a) Color Scheme
   b) Visibility/Graphics overrides
   c) View Range
   d) Graphic Display Option

10. Which effects does rendering NOT create?

   a) Material colors and textures
   b) Sunlight and artificial lighting
   c) People and plats
   d) Rain and lightning

11. Walls are system families. Which is not a wall family?

   a) Basic
   b) Complicated
   c) Curtain
   d) Staked

12. Which is not a dimension style?

   a) Linear
   b) Angular
   c) Temporary
   d) Radial

13. If you convert an existing wall to a curtain wall, what happens to any doors or windows that are placed in the selected wall?

 a) They remain
 b) You cannot convert existing walls to curtain wall
 c) They are converted to curtain entities
 d) They are deleted

14. Which statement about detail views is FALSE?

 a) Detail Views automatically use a different view scale from the parent view
 b) Detail Views can be deleted only from the parent view
 c) Detail Views appear in a separate section of the Project Browser
 d) Detail Views are created with the Callout tool

15. Which is NOT a valid option when sketching a ceiling?

 a) Construction line
 b) Pick line
 c) Slope Arrow
 d) Pick Walls

16. Which statement about creating roofs by footprint is false?

 a) Created with 2D closed-loop sketch of the roof perimeter
 b) Can use base and top level to define roof geometry
 c) Slopes are defined when you apply a slope parameter to sketch lines
 d) Openings are defined by additional closed loops

17. Which one is not a Stair System Family?

 a) Cast in place Stair
 b) Monolithic Stair
 c) Precast Stair
 d) Assembled Stair

18. "Thin lines" can be switched on from which toolbar?

 a) Option Bar
 b) Property Browser
 c) Status Bar
 d) Quick access Toolbar

19. Which is not a property of a slope arrow pf a roof?

 a) Level
 b) Height offset at head

c) Level at tail
d) Level at head

20. When modelling a floor, the floor _____ must be a closed loop.

   a) Slope
   b) Type
   c) Function
   d) Boundary

21. To define the extents of room, you must use room bounding elements or room separation

   a) Lines
   b) Parameters
   c) Tags
   d) Families

22. When you model a roof, it is automatically associated with a ____

   a) Level
   b) Wall
   c) Material
   d) View

23. When you change the height of a level, all of the associated elements will _____

   a) Be deleted
   b) Move
   c) Stay the same
   d) Highlighted

24. When you trim or extend walls to a corner, you click on the portion of the elements you want to

   _____

   a) Move
   b) Offset
   c) Keep
   d) Remove

25. Which of the following can be defined prior to placing a wall?

   a) Top offset
   b) Base Constraint
   c) Profile
   d) Unconnected Height

CE2301 - REVIT ARCHITECTURE

Final Exam Questionnaire

Student Name: _vigneshwaran. G_

Register No: _11272010 8002_

(handwritten: 50 / 50, Excellent, 9/6/23)

Answer all the questions (circle the right answers)

Time – 60 Mins

25x2=50

1. Which command is used to place a free- standing element, such as furniture?

   a) Component
   b) Repeating Detail
   c) Model-In-Place
   d) Detail Components

2. Which statement is FALSE about stair sketches?

   a) Boundary lines must be open lines
   b) Risers must be parallel
   c) The user is provided with the desired riser count
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3. Which statement about drafting views is false?

   a) You can adjust view scale and detail level on Drafting Views
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4. In which view type can place a level?

   a) Floor Plan
   b) 3D
   c) Elevation
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5. Which statement is FALSE?

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6. What does the small triangle next to the roof boundary line indicate in the roof sketch?

    a) Overhang
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7. Which action is NOT possible with a section line?

    a) Cycle thru the display of symbols and the head and tail of the section line
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    a) Color Scheme
    b) Visibility/Graphics overrides
    c) View Range
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10. Which effects does rendering NOT create?

    a) Material colors and textures
    b) Sunlight and artificial lighting
    c) People and plats
    d) Rain and lightning

11. Walls are system families. Which is not a wall family?

    a) Basic
    b) Complicated
    c) Curtain
    d) Staked

12. Which is not a dimension style?

    a) Linear
    b) Angular
    c) Temporary
    d) Radial

20. When modelling a floor, the floor _____ must be a closed loop.

   a) Slope
   b) Type
   c) Function
   d) Boundary

21. To define the extents of room, you must use room bounding elements or room separation

   a) Lines
   b) Parameters
   c) Tags
   d) Families

22. When you model a roof, it is automatically associated with a _____

   a) Level
   b) Wall
   c) Material
   d) View

23. When you change the height of a level, all of the associated elements will _____

   a) Be deleted
   b) Move
   c) Stay the same
   d) Highlighted

24. When you trim or extend walls to a corner, you click on the portion of the elements you want to _____

   a) Move
   b) Offset
   c) Keep
   d) Remove

25. Which of the following can be defined prior to placing a wall?

   a) Top offset
   b) Base Constraint
   c) Profile
   d) Unconnected Height

13. If you convert an existing wall to a curtain wall, what happens to any doors or windows that are placed in the selected wall?

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   a) Cast in place Stair
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   c) Precast Stair
   d) Assembled Stair

18. "Thin lines" can be switched on from which toolbar?

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   c) Status Bar
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19. Which is not a property of a slope arrow pf a roof?

   a) Level
   b) Height offset at head
   c) Level at tail
   d) Level at head

CE2301 - REVIT ARCHITECTURE

Final Exam Questionnaire

Student Name: _Trisha Priya Varshini. 4_

Register No: _112721101003_

Answer all the questions (circle the right answers)   **25x2=50**

Time – 60 Mins

1. Which command is used to place a free- standing element, such as furniture?

   a) Component
   b) Repeating Detail
   c) Model-In-Place
   d) Detail Components ✓

2. Which statement is FALSE about stair sketches?

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   d) Ceiling Plan

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   d) Text is view specific

40 / 50

Good
4/4/23

6. What does the small triangle next to the roof boundary line indicate in the roof sketch?

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   b) Height
   c) Slope
   d) Orientation

7. Which action is NOT possible with a section line?

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11. Walls are system families. Which is not a wall family?

    a) Basic
    b) Complicated
    c) Curtain
    d) Staked

12. Which is not a dimension style?

    a) Linear
    b) Angular
    c) Temporary
    d) Radial

13. If you convert an existing wall to a curtain wall, what happens to any doors or windows that are placed in the selected wall?

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20. When modelling a floor, the floor _____ must be a closed loop.

   a) Slope
   b) Type
   c) Function
   d) Boundary ✓

21. To define the extents of room, you must use room bounding elements or room separation

   a) Lines
   b) Parameters
   c) Tags
   d) Families ✓

22. When you model a roof, it is automatically associated with a ____

   a) Level ✓
   b) Wall
   c) Material
   d) View

23. When you change the height of a level, all of the associated elements will _____

   a) Be deleted ✓
   b) Move
   c) Stay the same
   d) Highlighted

24. When you trim or extend walls to a corner, you click on the portion of the elements you want to

   _____

   a) Move
   b) Offset
   c) Keep
   d) Remove ✓

25. Which of the following can be defined prior to placing a wall?

   a) Top offset ✓
   b) Base Constraint
   c) Profile
   d) Unconnected Height

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COLLEGE OF ENGINEERING AND TECHNOLOGY
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Avadi, Chennai, Tamil Nadu - 600054

Value added Course Feedback Form

Name of the Student   : _Sharmila T_

Course Title   : _Revit ARCHITECTURE_

Date   : _4.05.23_

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					
2	The instructor was organized and used class time efficiently			✓	✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.... _No Suggestions_ ....
....
....
....

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Value added Course Feedback Form

Name of the Student   :   AJAY BABU M

Course Title   :   REVIT ARCHITEXTURE

Date   :   4.05.2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					
2	The instructor was organized and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:

............................No COMMENTS...

....

....

....

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Avadi, Chennai, Tamil Nadu - 600054

Value added Course Feedback Form

Name of the Student : KOUSALYA M

Course Title : REVIT ARCHITECTURE

Date : 4.05.2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class			✓		
2	The instructor was organized and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study			✓		
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

This Course was highly Valnable

St.PETER'S COLLEGE OF ENGINEERING AND TECHNOLOGY

AFFILIATED TO ANNA UNIVERSITY-APPROVED BY AICTE, AVADI, CHENNAI, TAMILNADU - 600054.

CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr/Ms _____ from _____

has participated in the value added course titled "CE2301 – Revit Architecture" offered by the Department of Civil Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai during 27.04.2023 to 04.05.2023.

Coordinator

HoD

Principal

Department of Civil Engineering

Date: 11.05.23

Value added Course Report

Ref No: SPCET/Civil/2022-23/EVEN/VAC/CE2301

Course Code and Name	**CE2301 – Revit Architecture**
Course Duration	40 Hours
Year Offered	II, III and IV-Year of Civil Engineering & Aeronautical Engineering
Course Coordinator	Ms.L.Maria Monisha AP/CIVIL
Course Type	Self-framed Course, approved by Academic Council
Number of Students Enrolled	58
Number of Students Appeared	58
Number of Students Passed	58
Date	27/04/2023 to 04/05/2023

Course Outcome

Upon the completion of this course the students will be able to

- To enable the Students to know the interface of Software and the tools used to Design
- To learn the Students about to Draw Various Basic Structural Elements with Revit tools
- To enable the students to create full 3D architectural projects and set them up in working drawings.
- To Learn the Students about How to Render the 3D Sketch

Assessment mode

Scheme of Exam   : MCQ Type

Date of Exam   : 04/05/2021

Course outcome attainment

Course is successfully completed with the Attainment Level 1.

List of Feedback Questions

Q1. The instructor was well prepared for class

Q2. The instructor was organizedand used class time efficiently

Q3. The instructor presented course material in a clear manner that facilitated understanding

Q4. This class has increased my interest in this field of study

Q5. The readings were appropriate to the goals of the course

Q6. I have put a great deal of effort into advancing my learning in this course

Q7. I would highly recommend this course to other students

Q8. The grading practices were fair.

Course Feedback

The feedback was obtained from the participants after end the course and the detailed analysis report are listed below

CE2301 - Revit Architecture

The comments from the feedback were represented in the department meeting. The suggestions from the students were listed down and were kept in line to be taken up for implementation in the upcoming value added courses.

Course Coordinator

HOD

11/08/2022

To

The Principal

Respected Sir

Sub: Permission to conduct Value Added Course - Reg.

The Department of Electronics and Communication Engineering and Electrical and Electronics Engineering offers a value-added course during the Academic Year 2022-2023 ODD Semester. In this respect, kindly provide permission to conduct value-added courses in accordance with the schedule given below.

Name of the course with code	Date	Duration in Hours	Availability in Curriculum
Solar Technology (EE 2201)	22.08.2022 to 26.08.2022, 27.08.2022,03.09.2022,10.09.2022	45 Hrs	No

Thanking You

Permitted

11/08/22

Head of the Department

Department of Electrical & Electronics Engineering

Department of Electrical and Electronics Engineering

Circular

18/08/2022

Ref No: SPCET/EEE /2022-23/ODD/VAC/EE2201

The Department of Electrical and Electronics Engineering has planned to conduct Value Added Course for EEE and ECE students from 22.08.22 to 26.08.22, 27.08.22,03.09.22 and 10.09.222 on "EE2201 Solar Technology". This course is open to all branches.

Venue: EEE Seminar Hall, Block VI, SPCET

Course Coordinator

HOD

To:

       All HODs

       IQAC

Copy to

       Notice Board
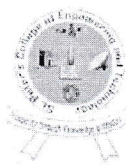
Department of Electrical and Electronics Engineering

Value added Course

on

SOLAR TECHNOLOGY

DATE: 03/09/2022 to 10/12/2022
(Only on Saturdays)

Resource Persons

Dr.A.Mohanasundaram
Assistant Professor,
AMS College of Engineering

Mr.R.Rajesh, ME
Assistant Professor
Veltech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology,Chennai

Dr.R.Murugan

HOD /EEE

Organizing Secretary

Dr. M.Chinnapandian

PRINCIPAL

Organizing Chairperson

Department of Electrical & Electronics Engineering

EE2201 Solar Technology

Resource Person Details

Dr.A.MohanaSundaram,
Assistant Professor,
Aalim Muhammed Salegh College of Engineering, Avadi, Chennai
Email ID: mohanasundaram.a@aalimec.ac.in

Mr.R.Rajesh ,
Assistant Professor
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai
Contact details:
Mob.no. 9444253995, Email ID: rajeshpse15@gmail.com

HOD
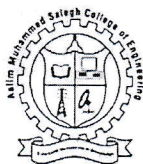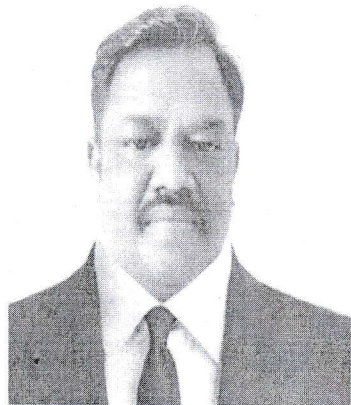
AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING
(NAAC Accredited)
Nizara Educational Campus, Muthapudupet, Avadi IAF, Chennai - 600 055.
Ph: 044 - 26842627 / 26842086

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

NAME & INITIALS	Dr. A.MOHANASUNDARAM
DESIGNATION	Assistant Professor
EDUCATIONAL QUALIFICATION	M.E., PhD.,
EXPERIENCE	25 YEARS and 6 MONTHS
DATE OF JOINING	18.12.2003
EMAIL ID	mohanasundarm.a@aalimec.ac.in
AREA OF SPECIALISATION	Power System Engineering, Wind Energy Generation, Hybrid Renewable Energy,

EDUCATIONAL QUALIFICATION

DEGREE	BRANCH / SPECIALIZATION	INSTITUTION	UNIVERSITY	YEAR
BE	ELECTRICAL AND ELECTRONICS ENGINEERING	BHARATH ENGINEERING COLLEGE,CHENNAI-72	MADRAS	1996
ME	POWER SYSTEMENGINEERING	COLLEGE OF ENGINEERING,GUINDY CHENNAI-25	ANNA UNIVERSITY	2008
PhD	DESIGN OF VERTICAL AXIS WIND TURBINE AND UTILIZATION OF WIND-SOLAR ENERGY IN DEMAND-SIDE HOME ENVIRONMENT	COLLEGE OF ENGINEERING,GUINDY CHENNAI-25	ANNA UNIVERSITY	2023

SHORT TERM COURSE OBTAINED

Name of the Course	Institution	Duration
CAD/CAM/CAE&CNC programming	Central Institute of Plastics Engineering &Technology (CIPET), Guindy.	7th December 1998 - 3rd March 1999.

PROFESSIONAL TEACHING EXPERIENCE (25 YEARS AND 6 MONTHS)

Name of the College	Designation	Duration
Aalim Muhammed Salegh College of Engineering,Avadi-IAF, Chennai -55	Head/ EEE/Assistant Professor	June 2018 to Feb 2020and /only AP till date.
Aalim Muhammed Salegh College of Engineering,Avadi-IAF, Chennai -55	Assistant Professor	Dec 2003 to May 2018.
Jaya Engineering college, Tiruniravur, Chennai 602024.	Lecturer	July 2002 to November 2003
Bharath Engineering College, Chennai-72.	Lecturer	June 1998 to June 2002

GEST TEACHING EXPERIENCE

Name of the College/University	Degree/ Specialization	Subject taught /Duration
College of Engineering, Anna University, Chennai-25	M.E/ Power System Engineering (Part-Time)	Power System Transients / Second semester (2015-16) & (2016-17)

INTERNATIONAL JOURNAL PUPLISHED

Name of the Journal	Journal title	Link to the Publications
Journal of Electrical Engineering, January 2018. (Annexure-1)	Analysis and Design of a Giromill Type Vertical Axis Wind Turbine for a Low Wind Profile Urban Area.	https://www.researchgate.net/profile/Mohanasundaram-Anthony
Sustainability, October 2020/Current Impact Factor: 2.576/Scopus cite score:3.2 (Annexure-1)	Design of Rotor Blades for Vertical Axis Wind Turbine with Wind Flow Modifier for Low Wind Profile Areas.	https://www.mdpi.com/2071-1050/12/19/8050.
MDPI -Electronics (Systems & Control Engineering) July 2021/Current Impact Factor: 2.397/Scopus cite score:2.7 (Annexure-1)	Autonomous Fuzzy Controller Design for the Utilization of Hybrid PV-Wind Energy Resources in Demand Side Management Environment.	https://www.mdpi.com/20799292/10/14/118.
Electrical Engineering/Springer Nature, January 2023. Impact Factor: 2.397/Scopus cite score:2.7 (Annexure-1)	Design of a Wind-Solar Hybrid Energy Air Conditioning System Using BLDC Motor for the Residential Buildings	https://www.researchgate.net/publication/364516684_Design_of_a_Wind-Solar_Hybrid_Energy_Air_Conditioning_System_Using_BLDC_Motor_for_the_Residential_Buildings

INTERNATIONAL AWARDS FOR PUPLICATIONS

Journal Name	Award Name	H-Index	Journal Citations
London Journals Press, United Kingdom (UK)	**Quarterly Franklin Membership** ID #BO39884, May 2020	3	37

INTERNATIONAL JOURNAL REVIWER /IEEE

ORCID iD	Reviewing Journal
https://orcid.org/0000-0001-7334-9543	*IEEE Accesses* from 2019 till date, **&** London Journal Press from May 2020

PROFESSIONAL MEMBERSHIP

INDIAN SOCIETY FOR TECHNICAL EDUCATION (ISTE)	**LIFE MEMBERSHIP** Membership No.: LM-134372

NPTEL –SWAYAM (IIT) CERTIFICATION COURSE

Course Code /Name	Course status	Course is given by
noc21-ee77/ Power System Analysis (12weeks)	One among the 100 completed the course all over India with an *FDP certificate* (July 2020)	**Indian Institute of Technology, Kharagpur.**
noc22-ee06/ Electrical Machines – II (12weeks)	Obtained **NPTEL ELITE Certificate** (April 2022)	**Indian Institute of Technology, Kharagpur.**

STATE LEVEL FUNDED PROJECTS

Name of the Sponsorship	Title of the project /year of the award
Tamil Nadu State Council for Science and Technology/ students project scheme 2020-2021	**Regulation of MTC Bus with passenger alert system** The fund received is ₹ 7500.

NATIONAL LEVEL ACHIVEMENTS AND AWARDS FOR UG PROJECTS

1. An Under Graduate project work guided with titled "**Solar-powered Air conditioner using BLDC motor**" shortlisted for the finals of "*AICTE-ECI Charta Vishwakarma Awards 2017*" **organized by All India Council for Technical Education (AICTE), Ministry of Human Resource Development, Government of India, Registration Code: VAEE048**.

2. Mentored a Hardware project model titled *Solar-Powered Smart Rail Crack Identification system* participated in the national level **HACKATHON-2018 hardware edition conducted by** Ministry of Human Resource Development, Government of India **and won all in India First Runner up prize** and same is appreciated by Honorable chief minister of Tamil Nadu.

3. **Participated as a** *supporting Electrical Engineer in the Guinness World Record 2018* **achievement completed by Mr. Nawas Akram in Longest Power strip held at Aalim Muhammed Salegh College of Engineering, Chennai-55.**

4. *Participated in a TV program* **named Ariviyal Arivoum regarding the project planning Mr. Naushed Shaheb, telecasted in Doordarshan Podhigai on 16th June 2019.**

NOTICABLE CONTRIBUTIONS IN AMSCE/EEE DEPARTMENT

- Designed the Layout and constructed the first POWER SYSTEM SIMULATION lab at EEE/AMSCE in 2005 and the same is upgraded in 2012 for supporting for PG-POWER SYSTEM under my Lab in-charge role.

- Upgraded Electrical Machines Laboratory with INNOVATIVE THREE PHASES LINEAR T-section INDUCTION MOTOR (looking forward to filing a patent) to support High-speed bullet train transportations through students' projects.

- Inaugurated ROBOTICS CLUB in EEE/AMSCE in 2018 to provide training for HSC, Diploma, UG students with a syllabus in the basic manual to autonomous level in Terrain Robotics.

- Renewable Energy Laboratory was designed with a 2kW HAWT prototype Model, 2kW H-type VAWT model and 2kW Involute VAWT model to learn wind energy conversion behaviour through real-time wind speed variations.

- Taken Lead role in Energy auditing of the AMSCE campus and constructed 20kW SOLAR POWER PLANT to support the EEE /AMSCE to support Renewable Energy Laboratory and students projects.

- Being a Project Coordinator from 2005 to 2020, established a project storeroom to help the students to use hardware components from more than 500 IN HOUSE PROJECTS. Personally guided 100+ innovative and award-winning UG PROJECTS.

- Taken in charge of HT 600kVA, 11kV / 440V Transformer substation and Diesel generator maintenance for the AMSCE campus from 2018-2020.

- Nominated as EEE Department Coordinator for the first international conference IIASE in AMSCE in 2017 and presented three journals at the conference.

- State Level Achievement under my leadership as EEE Department HEAD/ As per the Times of India Ranking the Department of Electrical and Electronics Engineering in Aalim Muhammed Salegh College of Engineering, RANKED No 1 in Tamil Nadu for two consecutive academic years in 2018-19 and 2019-2020.

SIGNIFICANT CONTRIBUTION IN THE INSPECTION

- Participated in an NBA and Deemed University linked inspection in BHATAH ENGINEERING COLLEGE in 2003.

- EEE Department FILES coordinator for the NBA inspection in AMSCE in 2011.

- Coordinator in the ANNA UNIVERSITY department inspection for permanent affiliation in 2011.

- HEAD for the CRITERION 6 FILES and presented the EEE achievements during the NAAC Inspection in 2018.

SPECIAL AWARDS RECEIVED DURING RECENT TIMES

- Received "Excellence in Education 2022 award" from Tamil Nadu Teacher's Association & Bala Educational trust on 10.09.22 by Justice Jeyachandran, Member, HRD.

- Received cash prize, certificate of appreciation and a shield for producing 100 % Results in a subject named EE 8019 SMART GRID in Anna University theory examination NOV/DEC 2022.

GUEST LECTURES PROVIDED

- Provided a guest lecture on the topic of, Wind Power Generation Analysis Using QBlade software at GRT Engineering College for the EEE students on 26.08.2022.

WEBINAR PROVIDED

- Conducted a webinar on the topic of, Design of vertical axis wind turbine Using QBlade software at Aalim Muhammed Salegh Engineering College for the Faculty members/ Research scholars/ PG &UG Engineering students on 27.04.2022.

- Conducted a Webinar on the Research topic of, Comparative Analysis of vertical and horizontal axis wind turbine Using QBlade software at Aalim Muhammed Salegh Engineering College for the Faculty members/ Research scholars/ PG &UG Engineering students on 11.02.2023 with 163 participants (92% External participation).

Dr. A. MOHANASUNDARAM

RESUME

RAJESH.R
No 2/344 Avvaiyar Street
M.A. Nagar, Redhills
Chennai-600052
Ph: +91-9444253995
E-Mail: rajeshpse15@gmail.com
rajes416@yahoo.co.in

Educational Details:

M.E (Power System Engineering) from College of Engineering, Anna University, Guindy Campus, Chennai, 2010-2012, with a CGPA of 7.0

B.E (Electrical and Electronics Engineering) from St. Joseph's College of Engineering, Chennai, 2002-2006, with an aggregate of 65.86%

Higher Secondary from SBOA Matriculation Higher Secondary School, Chennai, 2001, with an aggregate of 82.9166%

SSLC (Matriculation) from SBOA Matriculation Higher Secondary School, Chennai, 1999, with an aggregate of 73.36%

Academic Experience:

Employer: Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai
Designation: Assistant Professor in EEE/ Manager Industry Relations
Experience: Dec 2014 to till Date

Employer: St. Peter's College of Engineering and Technology, Chennai
Designation: Assistant Professor in EEE
Experience: Feb 2013 to Dec 2014

Conference:

Participated in the INTERNATIONAL CONFERENCE ON "GREEN ENERGY TECHNOLOGIES FOR SMART CITIES" Organized by SRM University AP, Amaravathi, Dec - 2018.

Participated in the INTERNATIONAL CONFERENCE ON ROADMAP FOR SMART GRID Organized by CPRI, Bangalore, Aug-2011.

Presented a Paper titled "AN INTELLIGENT APPROACH FOR COST MINIMIZATION OF POWER GENERATION" in the National Conference on Emerging Trends in Engineering and Management Organized by Meenakshi College of Engineering, Chennai, April -2012.

Presented a Paper titled "CONGESTION MANAGEMENT IN DEREGULATED ENVIRONMENT DURING EMERGENCY AND NON-EMERGENCY CONDITIONS" at the 4th International Conference on "Science, Engineering and Technology (SET)" Organized by VIT University, Vellore, May 2012.

- For CSR activities initiated Centre of Excellence for Smart Factory Initiatives (ZF –Vel Tech)
- Worked for SIH Software & Hardware on 2019
- Participated in FISITA World Congress by SAE India – 02.10.2018 – 05.10.2018
- One-day workshop in Ornithopter at Imayam College of Engineering Trichy, Feb 2017
- One-day workshop in Ornithopter at Dhanalakshmi Srinivasan Institute of Technology Trichy, Feb 2017
- One-day workshop in Ornithopter at Mekkapatti Raja Mohan Reddy Institute of Technology and Science,Nellore – Oct 2016
- 2 days Aero Design Challenge students event by SAE, 2016 at Acharapakkam
- One-day workshop in Ornithopters held at Vijayawada, Feb 2016
- PLM Seminar in Vel Tech by EDS Technology,2015
- ICAM 2015 – SAE Car design challenge at Hilton Hotel Chennai
- Three days' workshop in Vel Tech with B&R Industrial Automation ETIA – 2015
- One-day free workshop in Vel Tech with CDAC& INTEL, 2015
- One-day free workshop in Vel Tech through" SSDA for CSE students,2015

Industrial Experience:

Employer: Group Tech Power System, Chennai.
Designation: Electrical Site cum Maintenance Engineer
Experience: May 2006- Dec 2012

Industrial Projects:

- M/s. International Auto Ltd, Irungattukottai, Sriperumbudur. (Site Engineer)
- M/s Ernst & Young (India) Pvt, Ltd., Chennai. (Site Engineer)
- M/s V.A. Foundation, Chennai. (Site Engineer)
- M/s Bharat Petroleum Corporation Ltd., SRO- Chennai. (Maintenance Engineer)
- M/s Tangirala Infrastructure Development Pvt, Ltd., Chennai. (Site Engineer)
- M/s Indian Institute of Technology Madras (IIT), Chennai. (Site cum Maintenance Engineer)
- M/s Central Leather Research Institute (CLRI), Chennai. (Site Engineer)

Personal Details:

Father Name	: K. Rajaram
Date of Birth	: 15-09-1983
Marital status	: Married
Nationality	: Indian
Languages Known	: English, Telugu and Tamil.

Deceleration:

I hereby declare that the above particulars furnished by me are true to the best of my knowledge and belief. I assure you, that if I am given a chance, I will execute my work to the fullest satisfaction of my superiors and to my working environment.

(R. RAJESH)

Journals:

Publisher	: Australian Journal of Electrical & Electronics Engineering
Issue	: Vol-10/ No-3 / Year- 2013
Paper Number	: E12-103
Paper Title	: Overload Alleviation in Electric Power Systems Using Fuzzy Logic-Based Generation Rescheduling

Publisher	: International Journal of Applied Engineering Research
Issue	: Vol-10(20)/ Year - 2016
Paper Number	: 41665 - 41668
Paper Title	: Congestion Management in Deregulated Environment Using Generation Rescheduling with an Intelligent Approach

Publisher	: International Journal of Engineering and Technology
Issue	: 7(3.12 Special Issue 12), pp. 703-705 / Year - 2018
Paper Number	: 703-705
Paper Title	: A Review on Generation Management in India with Renewable Energy Sources

Publisher	: Solid state Technology
Issue	: Vol.63, No.6 (2020)
Paper Number	: 536 - 543
Paper Title	: LABVIEW based data acquisition and control of the primary standard gravimetric system

Achievements:

➤ Received 'C' License from Tamil Nadu Electrical Licensing Board (Permitted to supervise H.V and M.V work and authorized person under rule 3 of Indian Electricity Rule 1956)
➤ Overall rank- 329 and Community rank 13 in TANCET 2010
➤ Gate 2012 Qualified

Trainings:

➤ SIEFLEX ROBOTICS CO, Industrial Estate, Ambattur, Chennai.
➤ Murali Machines and Manufacturing & Co., Ramapuram, Chennai.
➤ Introductory course and workshop on PSCAD, Anna University, Chennai.

Roles in Vel Tech:

➤ Organizing Specialized Credit Courses by Industry Experts
➤ Arranging In-Plant Trainings
➤ Arranging Student's projects (9 months and 6 months) at Industry
➤ Arranging Guest Lectures from Industries
➤ Arranging Industrial visits to students
➤ Corporate Talks and Corporate Tours for the IcA program
➤ Visiting Industries to establish new contact and also to monitor students during their project phase
➤ Coordinating Project Competitions
➤ Admission Work for Industry Stream Programme
➤ Signing of MoUs for Industry-Academia Collaboration

Events / Workshops & Other Contributions in Vel Tech:

➤ International Project Competition and Exhibition in Feb every year from 2015 onwards (Marketing, Guest coordination & other works)
➤ For International Project Competition 2022 & 2023 received UNESCO INCCU Patronage for Joint Collaboration work initiated
➤ Arranged Guest for the 2023 International Project competition from TNSDG Thiru. Har Sahay Meena IAS fromPlanning and Commissioning department

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Avadi, Chennai, Tamilnadu – 600 054

Department of Electrical and Electronics Engineering

EE2201 Solar Technology

Value-added Course Schedule

Date	Hours	Title of the Course	Resource Person
22/08/22	4	Physics of solar cells	Dr.A.MohanaSundaram, Assistant Professor, AMS College
22/08/22	3		Mr.R.Rajesh, Assistant Professor, Veltech University.
23/08/22	4	Solar PV module technologies	Dr.A.MohanaSundaram, Assistant Professor, AMS College
23/08/22	3		Mr.R.Rajesh, Assistant Professor, Veltech University.
24/08/22	4	Solar PV systems	Dr.A.MohanaSundaram, Assistant Professor, AMS College
24/08/22	3		Mr.R.Rajesh, Assistant Professor, Veltech University.
25/08/22	4	Solar PV applications	Dr.A.MohanaSundaram, Assistant Professor, AMS College
25/08/22	3	Solar Radiation review	Dr.A.MohanaSundaram, Assistant Professor, AMS College
26/08/22	4	Solar Thermal collectors	Dr.A.MohanaSundaram, Assistant Professor, AMS College
26/08/22	3	Application	Mr.R.Rajesh, Assistant Professor, Veltech University.
27/08/22	3	Energy Storage	Mr.R.Rajesh, Assistant Professor, Veltech University.
03/09/22	3	Energy Storage	Mr.R.Rajesh, Assistant Professor, Veltech University.
10/09/22	4	Assessment /Validatory	V.S.Veena, Assistant Professor SPCET

Course Coordinator

HoD

Department of Electrical and Electronics Engineering

EE2201 Solar Technology

SYLLABUS

Learning Objectives

- To understand the Robot types and their end effectors.
- To introduce the concept of robot kinematics.
- To understand the methods in trajectory and motion planning.
- To impart knowledge on the dynamics of robots.
- To learn the sensors and actuators used in robots.

PART -A   Solar Photovoltaic Technology

LESSON-1   Physics of solar cells   9

Crystal structure, band theory, energy band diagrams, Fermi level, intrinsic and extrinsic semiconductor, doping, n-type and p-type silicon, p-n junctions, drift and diffusion current, absorption of radiation and excess minority carriers, generation, recombination and carrier separation, Standard solar cell structure, I-V characteristics, FF, Voc, Isc, Pmax, conversion efficiency, losses in solar cell, Rs, Rsh, the impact of radiation and temperature, PC1D simulationof industrial solar cell structure, Concepts of heterojunctions, multi-junction, and concentrated solar cell, Introduction to advanced software used in solar cell simulation

LESSON-2 Solar PV module technologies   9

First generation: Silicon wafer-based technology: Materials and process requirements for solar cell fabrication, process flow, process control measures, quality control techniques Single and polycrystalline silicon solar cells, Materials and process requirements for module assembly, routine, and type tests, qualification test standards, types of degradation, Second generation: Thin film technologies: Merits and demerits of thin film technologies, amorphous-Si, Cd Te and CIGS solar cell module, manufacturing steps, Third generation/emerging PV, technologies: Organic PV, Dye-sensitized PV, Quantum-dot, Hot-carrier, Upconversion, and down-conversion, Latest benchmark efficiencies – laboratory and manufacturing, New technologies in the market – PERC, Bifacial, TOPCON, Half-cut cell, etc.

LESSON-3 Solar PV systems   6

Balance of System (BoS) components: battery, PCU (charge controller, inverter, data logger), transformer, cables and connectors, switches/circuit breakers, energy meters, bypass and blocking diodes, Types of PV systems: Standalone, grid-connected, hybrid, rooftop business

models – CAPEX and RESCO, canal top, floating PV system, System design: SPV system design guideline and methodologies, introduction to PVSyst, designing of standalone/grid-connected PV systems for domestic/commercial use

LESSON-4 Solar PV applications 3

Lighting, agriculture, refrigeration, telecommunications, space, BIPV, fencing, water purification, navigation, defense, offshore, etc

PART-B Solar Thermal Technology

LESSON-5 Solar Radiation Review 3

Solar radiation on the collector, Liu & Jordan relation.

LESSON 6 Solar Thermal Collectors 4

Non-concentrating collectors, Flat plate collectors: general design features and characteristics, materials, Unglazed, Single and double glazed solar collectors, Optical losses and thermal losses, thermal analysis, and performance characteristics, Design of water and air heating collectors: their specific features. Short-term and long-term performance (realizability), Evacuated tube collectors: general design features, characteristics, materials, thermal analysis, Thermo siphon system and forced convection system, Concentrating solar collectors: General description; concentrators, receivers, Orienting/tracking requirements, Materials General characteristics Optical features of solar concentrators: II Law of thermodynamics for solar concentrators. Optical and thermal losses, Thermal performance characteristics parabolic trough collectors (PTC), Parabolloid dish collectors, Scheffler dish, LinearFresnelReflectorCollector

LESSON 7 Application 4

Solar hot water/steam systems, Solar cookers: box type, dish type, and others; dryers; desalination systems; absorption cooling; furnace, Process heating systems, community cooking system, Power generation: Concentrator based system, Fresnel system, central tower,distributed line focus and point focus systems, Hybrid solar thermal

LESSON 8 Energy Storage 4

Sensible heat storage, latent heat storage (PCM), thermo-chemical storage Organic & inorganic PCMs, properties, characterization, Applications in power generation, green building, cooking, cold storage, transportation, district heating & cooling, salinity gradient solar pond

Assessment 3

Total Hours: 45

COURSE OUTCOMES

After completing this course students will be able to:

- Understand the physics and technology of solar PV
- Apply system design approaches for various applications of solar PV
- Apply system design approaches for various applications of thermal technologies

Text Books

Renewable Energy Engineering and Technology – A Knowledge Compendium, ed. VVN Kishore (TERI Press, 2008).

CS Solanki: Solar Photovoltaics – Fundamentals, Technologies and Applications, Third Ed(PHI Learning, 2015)

Reference Books

SM Sze, Kwok K Ng: Physics of semiconductor devices, third edition (John Wiley & Sons, 2007)

MA Green: Solar Cells Operating Principles, Technology, and System Applications (Prentice-Hall, 1981) MA Green: High Efficiency Silicon Solar Cells (Trans Tech Publications, 1987)

SJ Fonash: Solar Cell Device Physics (Academic Press, 1982)

Handbook of photovoltaic science and Engineering, ed. Antonio Luque and Steven Hegedus(John Wiley and Sons, 2011)

Anna Mani, S Rangarajan: Handbook of Solar Radiation Data for India, (Allied Publishers, 1980)

Richard C Neville, RC Neville, Bas Van Der Hoek: Solar Energy Conversion: The Solar Cell (Elsevier Science & Technology, 1995)

Peter Würfel: Physics of Solar Cells: From Basic Principles to Advanced Concepts (Wiley-VCH, 2009)

JF Kreider and F Kreith: Solar Heating and Cooling: Active and Passive Design (Hemisphere Publishing Corporation, 1982)

Low-Temperature Engineering Application of Solar Energy, ed. RC Jordan (ASHRAE, 2004)

HP Garg and J Prakash: Solar Energy: Fundamentals and Applications (Tata McGraw Hill, 1997) AB Meinel & MP Meinel: Applied Solar Energy: An Introduction (Addison)1976

JA Duffie and WA Beckman: Solar Engineering of Thermal Processes, Third Edition (John Wiley & Sons, 2013)

S Sukhatme and J Nayak: Solar Energy: Principles of Thermal Collection and Storage, Third Edition (Tata McGraw Hill, 2008)

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COLLEGE OF ENGINEERING & TECHNOLOGY

Affiliated to Anna University | Approved by AICTE | ISO 9001:2015 Certified

Avadi, Chennai, Tamilnadu – 600 054

Department of Electrical and Electronics Engineering

EE2201- Solar Technology

Student Enrolment List

S No.	Name of the Student	Register Number	Signature
1	ANUSIYA S	112719106001	
2	GEETHA V	112719106002	
3	GOBINATH K	112719106003	
4	GODWINJOES D	112719106004	
5	MOHAMMED HASSAIN M R	112719106005	
6	NAVEEN E	112719106006	
7	VASEEKARAN R	112719106009	
8	CHIRSTO JENISTON J	112720106001	
9	DHANRAJ R G	112720106002	
10	JAMALUDEEN A	112720106003	
11	NISHANTH E	112720106004	
12	SARAVANAN D	112720106005	
13	SUGUMAR K	112720106006	
14	KALPANA .KM	112720106301	
15	LOKESHWARI.V	112720106302	
16	MANIKANDA PRABHU .R	112720106303	
17	MOHAMMED RIYAS	112720106304	
18	BHAVADHARANI P	112721106002	
19	BHUVANESH M	112721106003	
20	DIVYAGEETHA N	112721106004	
21	EZEKIAH VIVIN JOTHAM J	112721106005	
22	GANESH C	112721106006	
23	GOKUL R	112721106007	
24	IJAZ AHMED K	112721106008	
25	KARPAGA LAKSHMI	112721106009	
26	KARTHICK RAJAN V T	112721106010	
27	KAVIN S	112721106011	
28	KAVYA AARTHI G	112721106012	
29	NALLASIVAM N	112721106013	

30	NARENDHIRAN B	112721106014	
31	NEHA S	112721106015	
32	PRABHU S	112721106016	
33	ROHIT M	112721106017	
34	SANTOSH PRIYAN V C	112721106018	
35	SARANIYA S	112721106019	
36	SARANRAJ G	112721106020	
37	SARATHY.S	112721106021	
38	SHYAM KUMAR K	112721106022	
39	SREE VIGNESH R	112721106023	
40	SURYA P	112721106024	
41	SUSHMA K	112721106025	
42	VENEKHA J	112721106026	
43	VIJAY V	112721106027	
44	KARTHIK. P	112721106301	
45	MOHAMMED RIYAS	112721106302	
46	NOBEL SALOM	112721106303	
47	MALINI M	112719105002	
48	MOHAMMED HUSSAIN M R	112719105003	
49	PRAKASH RAJ S	112719105004	
50	PRINCE KUMAR	112719105005	
51	SHAKTHIVEL S M	112719105006	
52	UMAPATHY B	112719105007	
53	MOHAMMED MUZZAMIL I	112719105701	
54	DINESH KUMAR G	112720105001	
55	MARIO FRANCIS GEORGE	112720105002	
56	SRI LAKSHIDA S	112720105003	
57	CHELLAIYA S	112720105301	
58	GOPI A	112720105302	
59	HEMANATHAN S	112720105303	
60	KISHORE KUMAR S	112720105304	
61	KRISHNA KUMAR B	112720105305	
62	RAJAVARMAN T S	112720105306	
63	SANTHOSH S	112720105307	
64	SRIRAM P	112720105308	
65	RAKESH V R	112721105001	

Course Coordinator

HOD/EEE

Attendance for VAC -EE 2201 Solar Technology

S No.	Name of the Student	Register Number	22-08-2022	23-08-2022	24-08-2022	25-08-2022	26-08-2022	27-08-2022	03-09-2022	10-09-2022
1	ANUSIYA S	112719106001	✓	✓	✓	✓	✓	✓	✓	✓
2	GEETHA V	112719106002	✓	✓	✓	✓	✓	✓	✓	✓
3	GOBINATH K	112719106003	✓	✓	✓	✓	✓	✓	✓	✓
4	GODWINJOES D	112719106004	✓	✓	✓	✓	✓	✓	✓	✓
5	MOHAMMED HASSAIN M R	112719106005	✓	✓	✓	✓	✓	✓	✓	✓
6	NAVEEN E	112719106006	✓	A	✓	✓	✓	✓	✓	✓
7	VASEEKARAN R	112719106009	✓	✓	✓	✓	✓	✓	✓	✓
8	CHIRSTO JENISTON J	112720106001	✓	✓	✓	✓	✓	✓	✓	✓
9	DHANRAJ R G	112720106002	✓	A	✓	✓	✓	✓	✓	✓
10	JAMALUDEEN A	112720106003	✓	✓	✓	✓	✓	✓	✓	✓
11	NISHANTH E	112720106004	✓	✓	✓	✓	✓	✓	✓	✓
12	SARAVANAN D	112720106005	✓	✓	✓	✓	✓	✓	✓	✓
13	SUGUMAR K	112720106006	✓	✓	✓	✓	✓	✓	✓	✓
14	KALPANA .KM	112720106301	A	✓	✓	✓	✓	✓	✓	✓
15	LOKESHWARI.V	112720106302	✓	✓	✓	✓	✓	✓	✓	✓
16	MANIKANDA PRABHU .R	112720106303	✓	✓	✓	✓	✓	✓	✓	✓
17	MOHAMMED RIYAS	112720106304	✓	✓	✓	✓	✓	✓	✓	✓
18	BHAVADHARANI P	112721106002	✓	✓	✓	✓	✓	✓	✓	✓
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38	SHYAM KUMAR K	112721106022	✓				✓			✓
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43	VIJAY V	112721106027	✓				✓			✓
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51	SHAKTHIVEL S M	112719105006	✓				✓			✓

52	UMAPATHY B	112719105007	✓	✓		✓	✓	✓
53	MOHAMMED MUZZAMIL I	112719105701	✓	✓	A	✓	✓	✓
54	DINESH KUMAR G	112720105001	✓	✓	✓	✓	✓	✓
55	MARIO FRANCIS GEORGE	112720105002	✓	✓	✓	✓	✓	✓
56	SRI LAKSHIDA S	112720105003	✓	✓	✓	✓	✓	✓
57	CHELLAIYA S	112720105301	✓	✓	✓	✓	✓	✓
58	GOPI A	112720105302	✓	✓	✓	✓	✓	✓
59	HEMANATHAN S	112720105303	✓	✓	✓	✓	✓	✓
60	KISHORE KUMAR S	112720105304	✓	✓	✓	✓	✓	✓
61	KRISHNA KUMAR B	112720105305	✓	✓	✓	✓	✓	✓
62	RAJAVARMAN T S	112720105306	✓	✓	✓	✓	✓	✓
63	SANTHOSH S	112720105307	✓	✓	✓	✓	✓	✓
64	SRIRAM P	112720105308	A	✓	✓	✓	✓	✓
65	RAKESH V R	112721105001		✓	✓	✓	✓	✓

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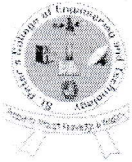
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE2201 Solar Technology

Final Exam Questionnaire

19 / 25

Student Name: _Ezekiah Vivin Jotham - J_

Register No: _112721106005_

Answer all the questions (circle the right answers)

Time – 60 Mins

ASSESSMENT TEST

1. The term photo voltaic comes from _____
a) Spanish
b) Greek
c) German
d) English

2. The volt is the unit of emf that was named after its inventor _____
a) Alessandro volta
b) Alexander volta
c) Alexa volta
d) Alexandro volta

3. The term photo voltaic is in use since _____
a) 1840
b) 1844
c) 1849
d) 1850

4. When the source of light is not sunlight then the photo voltaic cell is used as _____
a) Photodiode
b) Photo voltaic cell
c) Photodetector
d) Photo transmitter

5. The region where the electrons and holes diffused across the junction is called _____
a) Depletion Junction
b) Depletion region
c) Depletion space
d) Depletion boundary

6. The current produced by the solar cell can be given by _____
a) IL – ID + ISh
b) IL + ID – ISh
c) IL + ID + ISh
d) IL – ID – ISh

7. The amount of photo-generated current increases slightly with an increase in _____
a) Temperature
b) Photons
c) Diode current
d) Shunt current

8. Solar cells are made from bulk materials that are cut into wafers of_____thickness.
a) 120-180µm
b) 120-220µm
c) 180-220µm
d) 180-240µm

9. _____is one of the most important materials also known as solar-grade silicon.
a) Crushed silicon
b) Crystalline silicon
c) Powdered silicon
d) Silicon

10. _____photo voltaic devices in the form of thin films.
a) Cadmium Telluride
b) Cadmium oxide
c) Cadmium sulfide
d) Cadmium sulfate

11. _____is a direct band gap material.
a) Copper Indium Gallium Selenide
b) Copper Selenide
c) Copper Gallium Telluride
d) Copper Indium Gallium Diselenide

12. Dye-sensitized solar cells are made from_____organic dye.
a) Ruthium melallo
b) Aniline
c) Safranine
d) Induline

13. Quantum dot solar cells are based on _____
a) Gratzel cell
b) Solar cell

c) Voltaic cell
d) Galvanic cell

14. The quantum dot used are _____
a) Cds
b) CdTe
c) PbO
d) GaAs

15. Organic polymer solar cells are made from Polyphenylene.
a) True
b) False

16. Which of the following processes take place in solar distillation
a) evaporation
b) condensation
c) both (a) and (b)
d) solidification

17. Un-glazed solar collectors are designed primarily for
a) space heating
b) crop drying
c) pre-heat makeup ventilation air
d) all of the above

18. The function of a solar collector is to convert _____
a) Solar Energy into Electricity
b) Solar Energy radiation
c) Solar Energy thermal energy
d) Solar Energy mechanical energy

19. Most of the solar radiation received on earth's surface lies within the range of _____
a) 0.2 to 0.4 microns
b) 0.38 to 0.78 microns

c) 0 to 0.38 microns

d) 0.5 to 0.8 microns

20. A photovoltaic cell or solar cell converts _____

a) Thermal energy into electricity

b) Electromagnetic radiation directly into electricity

c) Solar radiation into thermal energy

d) Solar radiation into kinetic energy

21. For satellites the source of energy is _____

a) Cryogenic storage

b) Battery

c) Solar cell

d) Any of the above

22. Solar thermal power generation can be achieved by

a) using focusing collector or heliostats

b) using flat plate collectors

c) using a solar pond

d) any of the above system

23. Reflecting mirrors used for exploiting solar energy are called_____

a) Mantle

b) Ponds

c) Diffusers

d) Heliostats

24. The output of solar cell is of the order of _____

a) 1 W

b) 5 W

c) 10 W

d) 20 W

25. The most widely used solar material is ___

a) Arsenic

b) Cadmium

c) Silicon

d) Steel

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE2201 Solar Technology

Final Exam Questionnaire

Student Name: Umapathy. B

Register No: 112719105007

23/25

Answer all the questions (circle the right answers)

Time – 60 Mins

ASSESSMENT TEST

1. The term photo voltaic comes from _____
a) Spanish
b) Greek
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE2201 Solar Technology

Final Exam Questionnaire

Student Name: _Gopi. A_

Register No: _1127 20105302_

$\frac{21}{25}$

Answer all the questions (circle the right answers)

Time – 60 Mins

ASSESSMENT TEST

1. The term photo voltaic comes from _____
a) Spanish ✓
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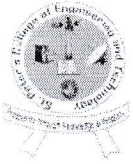2. The volt is the unit of emf that was named after its inventor _____
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Avadi, Chennai, Tamilnadu – 600 054

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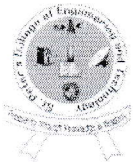
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d) any of the above system

23. Reflecting mirrors used for exploiting solar energy are called_____

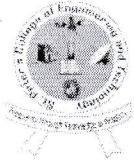a) Mantle

b) Ponds

c) Diffusers

d) Heliostats

24. The output of solar cell is of the order of _____

a) 1 W

b) 5 W

c) 10 W

d) 20 W

25. The most widely used solar material is ___

a) Arsenic

b) Cadmium

c) Silicon

d) Steel

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE2201 Solar Technology

Final Exam Questionnaire

Student Name: _Nallasivam . N_

Register No: _1127211106013_

22
25

Answer all the questions (circle the right answers)

Time – 60 Mins

ASSESSMENT TEST

1. The term photo voltaic comes from _____
a) Spanish
b) Greek ✓
c) German
d) English

2. The volt is the unit of emf that was named after its inventor _____
a) Alessandro volta
b) Alexander volta
c) Alexa volta ✓
d) Alexandro volta

3. The term photo voltaic is in use since _____
a) 1840
b) 1844 ✓
c) 1849
d) 1850

4. When the source of light is not sunlight then the photo voltaic cell is used as _____
a) Photodiode
b) Photo voltaic cell ✓
c) Photodetector
d) Photo transmitter

5. The region where the electrons and holes diffused across the junction is called _____
a) Depletion Junction
b) Depletion region
c) Depletion space
d) Depletion boundary

6. The current produced by the solar cell can be given by _____
a) IL – ID + ISh
b) IL + ID – ISh
c) IL + ID + ISh
d) IL – ID – ISh

7. The amount of photo-generated current increases slightly with an increase in _____
a) Temperature
b) Photons
c) Diode current
d) Shunt current

8. Solar cells are made from bulk materials that are cut into wafers of_____thickness.
a) 120-180μm
b) 120-220μm
c) 180-220μm
d) 180-240μm

9. _____is one of the most important materials also known as solar-grade silicon.
a) Crushed silicon
b) Crystalline silicon
c) Powdered silicon
d) Silicon

10. _____photo voltaic devices in the form of thin films.
a) Cadmium Telluride
b) Cadmium oxide
c) Cadmium sulfide
d) Cadmium sulfate

11. _____is a direct band gap material.
a) Copper Indium Gallium Selenide
b) Copper Selenide
c) Copper Gallium Telluride
d) Copper Indium Gallium Diselenide

12. Dye-sensitized solar cells are made from_____organic dye.
a) Ruthium melallo
b) Aniline
c) Safranine
d) Induline

13. Quantum dot solar cells are based on _____
a) Gratzel cell
b) Solar cell

c) Voltaic cell
d) Galvanic cell

14. The quantum dot used are _____
a) Cds
b) CdTe
c) PbO
d) GaAs

15. Organic polymer solar cells are made from Polyphenylene.
a) True
b) False

16. Which of the following processes take place in solar distillation
a) evaporation
b) condensation
c) both (a) and (b)
d) solidification

17. Un-glazed solar collectors are designed primarily for
a) space heating
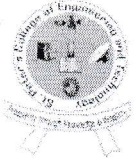b) crop drying
c) pre-heat makeup ventilation air
d) all of the above

18. The function of a solar collector is to convert _____
a) Solar Energy into Electricity
b) Solar Energy radiation
c) Solar Energy thermal energy
d) Solar Energy mechanical energy

19. Most of the solar radiation received on earth's surface lies within the range of _____
a) 0.2 to 0.4 microns
b) 0.38 to 0.78 microns

c) 0 to 0.38 microns

d) 0.5 to 0.8 microns

20. A photovoltaic cell or solar cell converts _____

a) Thermal energy into electricity

b) Electromagnetic radiation directly into electricity

c) Solar radiation into thermal energy

d) Solar radiation into kinetic energy

21. For satellites the source of energy is _____

a) Cryogenic storage

b) Battery

c) Solar cell

d) Any of the above

22. Solar thermal power generation can be achieved by

a) using focusing collector or heliostats

b) using flat plate collectors

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23. Reflecting mirrors used for exploiting solar energy are called_____

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a) Arsenic

b) Cadmium

c) Silicon

d) Steel

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EE2201 Solar Technology

Final Exam Questionnaire

Student Name: *Saraniya. S*

Register No: *112721106019*

23/25

Answer all the questions (circle the right answers)

Time – 60 Mins

ASSESSMENT TEST

1. The term photo voltaic comes from _____
a) Spanish
b) Greek
c) German
d) English

2. The volt is the unit of emf that was named after its inventor _____
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b) Alexander volta
c) Alexa volta
d) Alexandro volta

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b) Photo voltaic cell
c) Photodetector
d) Photo transmitter

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5. The region where the electrons and holes diffused across the junction is called _____

a) Depletion Junction

b) Depletion region

c) Depletion space

d) Depletion boundary

6. The current produced by the solar cell can be given by _____

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b) IL + ID – ISh

c) IL + ID + ISh

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d) Shunt current

8. Solar cells are made from bulk materials that are cut into wafers of_____thickness.

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b) 120-220μm

c) 180-220μm

d) 180-240μm

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a) Crushed silicon

b) Crystalline silicon

c) Powdered silicon

d) Silicon

10. _____photo voltaic devices in the form of thin films.

a) Cadmium Telluride

b) Cadmium oxide

c) Cadmium sulfide

d) Cadmium sulfate

11. _____is a direct band gap material.

a) Copper Indium Gallium Selenide

b) Copper Selenide

c) Copper Gallium Telluride

d) Copper Indium Gallium Diselenide

12. Dye-sensitized solar cells are made from_____organic dye.
a) Ruthium melallo
b) Aniline
c) Safranine
d) Induline

13. Quantum dot solar cells are based on _____
a) Gratzel cell
b) Solar cell

c) Voltaic cell
d) Galvanic cell

14. The quantum dot used are _____
a) Cds
b) CdTe
c) PbO
d) GaAs

15. Organic polymer solar cells are made from Polyphenylene.
a) True
b) False

16. Which of the following processes take place in solar distillation
a) evaporation
b) condensation
c) both (a) and (b)
d) solidification

17. Un-glazed solar collectors are designed primarily for
a) space heating
b) crop drying
c) pre-heat makeup ventilation air
d) all of the above

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d) 0.5 to 0.8 microns

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b) Battery

c) Solar cell
d) Any of the above

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b) 5 W
c) 10 W
d) 20 W

25. The most widely used solar material is ___
a) Arsenic
b) Cadmium
c) Silicon
d) Steel

Department of Electrical & Electronics Engineering
EE 2201- Solar Technology
Answer Key

1. The term photo voltaic comes from _____
a) Spanish
b) Greek
c) German
d) English
View Answer

Answer: b
Explanation: The term photo voltaic comes from Greek word phos means light. The volt is the unit of emf which was named after inventor of the battery.

2. The volt is the units of emf that was named after its inventor _____
a) Alessandro volta
b) Alxender volta
c) Alexa volta
d) Alexandro volta
View Answer

Answer: a
Explanation: The volt is the units of that was named after its inventor Alessandro volta. He is an Italian physicist. The term photo voltaic comes from Greek.

3. The term photo voltaic is in use since _____
a) 1840
b) 1844
c) 1849
d) 1850
View Answer
Answer: c
Explanation: The term photo voltaic is in use since 1849. Photo voltaic is a field related to practical application of photo voltaic cells.
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4. When the source of light is not sun light then the photo voltaic cell is used as _____
a) Photo diode
b) Photo voltaic cell
c) Photo detector
d) Photo transmitter
View Answer

Answer: c
Explanation: When the source of light is not the sun light then the photo voltaic cell is used as the photo detector. The example of the photo detector is the infra-red detectors.

5. The region where the electrons and holes diffused across the junction is called _____
a) Depletion Junction
b) Depletion region
c) Depletion space

d) Depletion boundary
View Answer

Answer: b
Explanation: The region where the electrons and holes diffused across the junction is called depletion region. It is also called as space charge region.
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6. The current produce by the solar cell can be given by _____
a) IL – ID + ISh
b) IL + ID – ISh
c) IL + ID + ISh
d) IL – ID – ISh
View Answer

Answer: d
Explanation: The current produced by the solar cell can be given by I=IL – ID – ISh. Where IL = photo generated current in amperes, ID = diode current in amperes, ISh = shunt current in amperes.

7. The amount of photo generated current increases slightly with an increase in _____
a) Temperature
b) Photons
c) Diode current
d) Shunt current
View Answer

Answer: a
Explanation: The amount of the photo generated current is slightly increased due to an increase in the temperature. If the photo generated current increases then the output current increases.

8. Solar cells are made from bulk materials that are cut into wafer of _____ thickness.
a) 120-180μm
b) 120-220μm
c) 180-220μm
d) 180-240μm
View Answer

Answer: d
Explanation: Solar cells are made from the bulk materials that are cut into wafers of thickness 180-240μm. Many currently available cells are cut into wafers.

9. _____ is one of the most important materials is also known as solar grade silicon.
a) Crushed silicon
b) Crystalline silicon
c) Powdered silicon
d) Silicon
View Answer

Answer: b
Explanation: The crystalline silicon is one of the most important materials that are also called as solar grade silicon. The mono crystalline, poly crystalline silicon and ribbon silicon are the other types of silicon that are used.

10. _____ photo voltaic devices in the form of thin films.
a) Cadmium Telluroide
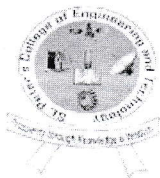
b) Cadmium oxide
c) Cadmium sulphide
d) Cadmium sulphate
View Answer

Answer: a
Explanation: Cadmium telluroide is the photo voltaic devices in the form of thin films. Those are used to absorb and convert the sun light into electricity.
11. _____ is a direct band gap material.
a) Copper Indium Gallium Selenide
b) Copper Selenide
c) Copper Gallium Telluride
d) Copper Indium Gallium Diselenide
View Answer

Answer: a
Explanation: Copper Indium Gallium Selenide is a direct band gap material. It has the highest efficiency among the film materials. The efficiency is about 20%.
12. Dye-sensitized solar cells are made from _____ organic dye.
a) Ruthium melallo
b) Aniline
c) Safranine
d) Induline
View Answer

Answer: a
Explanation: Dye-sensitized solar cells are made from Ruthium melallo organic dye in the form of mono layer of light absorbing material and mesoporous layer of nano particles.
13. Quantum dot solar cells are based on _____
a) Gratzel cell
b) Solar cell
c) Voltaic cell
d) Galvanic cell
View Answer

Answer: a
Explanation: Quantum dot solar cells are based on the Gratzel cell or dye sensitized solar cell. In dye-sensitized solar cell the nano particulate is titanium dioxide that amplifies the surface area greatly.
14. The quantum dot used are _____
a) Cds
b) CdTe
c) PbO
d) GaAs
View Answer

Answer: a
Explanation: The quantum dot used is generally is Cds. The other quantum dots that are used is cadmium selluroide, PbS etc.
15. Organic polymer solar cells are made from Polyphenylene.
a) True

b) False
View Answer

Answer: a
Explanation: Organic polymer solar cells are made from organic semi conductors. Some of them are Polyphenylene, Vinylene, Carbon fullerenes.

16. Which of the following processes take place in solar distillation

a) evaporation

b) condensation

c) both (a) and (b)

d) solidification

Answer: both (a) and (b)

17. Un-glazed solar collectors are designed primarily for

a) space heating

b) crop drying

c) pre-heat make up ventilation air

d) all of the above

Answer: pre-heat make up ventilation air

18. The function of a solar collector is to convert _____

a) Solar Energy into Electricity

b) Solar Energy radiation

c) Solar Energy thermal energy

d) Solar Energy mechanical energy

Answer: Solar Energy thermal energy

19. Most of the solar radiation received on earth surface lies within the range of _____

a) 0.2 to 0.4 microns

b) 0.38 to 0.78 microns

c) 0 to 0.38 microns

d) 0.5 to 0.8 microns

Answer: 0.2 to 0.4 microns

SR ROBOTICS Single Axis Solar Tracking System Handmade Working Project

20. Photovoltaic cell or solar cell converts _____

a) Thermal energy into electricity

b) Electromagnetic radiation directly into electricity

c) Solar radiation into thermal energy

d) Solar radiation into kinetic energy

Answer: Electromagnetic radiation directly into electricity.

21. For satellite the source of energy is _____

a) Cryogenic storage

b) Battery

c) Solar cell

d) Any of the above

Answer: Solar cell

22. Solar thermal power generation can be achieved by

a) using focusing collector or heliostates

b) using flat plate collectors

c) using a solar pond

d) any of the above system

Answer: any of the above system

23. Reflecting mirrors used for exploiting solar energy are called _____

a) Mantle

b) Ponds

c) Diffusers

d) Heliostats

Answer: Heliostats

24. The output of solar cell is of the order of _____

a) 1 W

b) 5 W

c) 10 W

d) 20 W

Answer: 1 W

25. Most widely used solar material is _____

a) Arsenic

b) Cadmium

c) Silicon

d) Steel

Answer: Silicon

26. Flat plate collector absorbs _____

a) Direct radiation only

b) Diffuse radiation only

c) Direct and diffuse both

d) All of the above

Answer: Direct and diffuse both

27. A pyranometer is used for mesurement of_____

a) Direct radiation only

b) Diffuse radiation only

c) Direct as well as diffuse radiation

d) All of the above

Answer: Direct as well as diffuse radiation

28. Bulb turbines are _____ turbines

a) Low head

b) High head

c) High speed

d) High pressure

Answer: Low head

29. Temperature attained by a flat-plate collector is of the _____

a) Order of about 900C

b) Range of 1000C to 1500C

c) Above 1500C

d) None of the above

Answer: Order of about 900C

30. The voltage of a single solar cell is _____

a) 0.2 v

b) 0.5 v

c) 1.0 v

d) 2.0 v

Answer: 0.5 v

31. Solar cells,for power generation,entail the following major disadvantages _____

a) Variable power

b) High cost

c) Lack of availability

d) Large area requirement

Answer: High cost

32. Thermionic converterutilizes _____

a) Thermionic emission effect

b) Peltier effect

c) Seebeck effect

d) None of the above

Answer: Thermionic emission effect

33. Solar process heating systems are designed to provide large quantities of _____ for _____ buildings.

a) hot water, residential

b) space heating, nonresidential

c) hot water or space heating, residential

d) hot water or space heating, nonresidential

Answer: hot water or space heating, residential

. Solar thermal energy can be useful for drying

a) crops

b) wood for construction

c) food products

d) all of the above

Answer: all of the above

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Department of Electrical and Electronics Engineering
EE2201- Solar Technology
Student Mark Sheet

S No.	Name of the Student	Register Number	Marks (100)
1	ANUSIYA S	112719106001	96
2	GEETHA V	112719106002	96
3	GOBINATH K	112719106003	80
4	GODWINJOES D	112719106004	76
5	MOHAMMED HASSAIN M R	112719106005	92
6	NAVEEN E	112719106006	96
7	VASEEKARAN R	112719106009	96
8	CHIRSTO JENISTON J	112720106001	96
9	DHANRAJ R G	112720106002	84
10	JAMALUDEEN A	112720106003	80
11	NISHANTH E	112720106004	80
12	SARAVANAN D	112720106005	88
13	SUGUMAR K	112720106006	96
14	KALPANA .KM	112720106301	84
15	LOKESHWARI.V	112720106302	76
16	MANIKANDA PRABHU .R	112720106303	84
17	MOHAMMED RIYAS	112720106304	96
18	BHAVADHARANI P	112721106002	84
19	BHUVANESH M	112721106003	84
20	DIVYAGEETHA N	112721106004	96
21	EZEKIAH VIVIN JOTHAM J	112721106005	76
22	GANESH C	112721106006	92
23	GOKUL R	112721106007	92
24	IJAZ AHMED K	112721106008	96
25	KARPAGA LAKSHMI	112721106009	72
26	KARTHICK RAJAN V T	112721106010	84
27	KAVIN S	112721106011	88
28	KAVYA AARTHI G	112721106012	84
29	NALLASIVAM N	112721106013	88

30	NARENDHIRAN B	112721106014	96
31	NEHA S	112721106015	96
32	PRABHU S	112721106016	96
33	ROHIT M	112721106017	96
34	SANTOSH PRIYAN V C	112721106018	84
35	SARANIYA S	112721106019	96
36	SARANRAJ G	112721106020	96
37	SARATHY.S	112721106021	92
38	SHYAM KUMAR K	112721106022	88
39	SREE VIGNESH R	112721106023	88
40	SURYA P	112721106024	84
41	SUSHMA K	112721106025	88
42	VENEKHA J	112721106026	96
43	VIJAY V	112721106027	96
44	KARTHIK. P	112721106301	84
45	MOHAMMED RIYAS	112721106302	96
46	NOBEL SALOM	112721106303	88
47	MALINI M	112719105002	96
48	MOHAMMED HUSSAIN M R	112719105003	96
49	PRAKASH RAJ S	112719105004	96
50	PRINCE KUMAR	112719105005	92
51	SHAKTHIVEL S M	112719105006	92
52	UMAPATHY B	112719105007	92
53	MOHAMMED MUZZAMIL I	112719105701	96
54	DINESH KUMAR G	112720105001	92
55	MARIO FRANCIS GEORGE	112720105002	92
56	SRI LAKSHIDA S	112720105003	92
57	CHELLAIYA S	112720105301	96
58	GOPI A	112720105302	84
59	HEMANATHAN S	112720105303	96
60	KISHORE KUMAR S	112720105304	96
61	KRISHNA KUMAR B	112720105305	96
62	RAJAVARMAN T S	112720105306	92
63	SANTHOSH S	112720105307	92
64	SRIRAM P	112720105308	92
65	RAKESH V R	112721105001	96
No of Students getting more than 70%		65	
% of Students getting more than 70%		100 %	

CO Attainment: Course is successfully completed with the Attainment Level 1
Rubrics

Assessment Level	CO's percentage	Performance	Remarks
Level 1	90-100%	Excellent	All important info adequately delivered and shows proficient understanding of the subject matter
Level 2	80-90%	Very good	Most of the important info are delivered and shows adequate understanding ofthe subject matter
Level 3	70-80%	Good	Some of the important info are delivered and shows a basic understanding ofthe subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered butdoesn't show adequate understanding ofthe subject Matter
Level 5	<50%	Poor	None of the important info are delivered and failed to show an understanding of the subject matter

Prepared By

Reviewed By

Approved By

Department of Electrical and Electronics Engineering

Value added Course Feedback Form

Name of the Student: B. Umapathy.

Course Title : EE2201 - Solar Technology.

Date : 10/09/22

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well-prepared for class				✓	
2	The instructor was organized and used class time efficiently			✓		
3	The instructor presented the course material in a clear the manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study			✓		
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students			✓		
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any   other   suggestions:

....

...... Very good course, and poered for Industrial Internship...

....

....

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Department of Electrical and Electronics Engineering

Value added Course Feedback Form

Name of the Student: Kalpana. K-M.

Course Title : EE2201 – Solar Technology.

Date : 10/9/2022

S.No	Questions	1	2	3	4	5
		Grading Level				
1	The instructor was well-prepared for class					✓
2	The instructor was organized and used class time efficiently				✓	
3	The instructor presented the course material in a clear the manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course			✓		
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any   other   suggestions:

....

.... Best course & Ian be recommended
.... to all students.

....

Department of Electrical and Electronics Engineering

Value added Course Feedback Form

Name of the Student: *Rakesh . V.R*

Course Title : *EE 2201 - Solar Technology.*

Date : *10/09/2022*

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well-prepared for class				✓	
2	The instructor was organized and used class time efficiently					✓
3	The instructor presented the course material in a clear the manner that facilitated understanding			✓		
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any   other   suggestions:

....
...*Learned   about   applications   of   Solar   technology*..
....
....

Department of Electrical and Electronics Engineering

Value added Course Feedback Form

Name of the Student: Sri Lakshidha . S

Course Title : EE2201 . Solar Technology .

Date : 10/09/2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well-prepared for class					✓
2	The instructor was organized and used class time efficiently					✓
3	The instructor presented the course material in a clear the manner that facilitated understanding					✓
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any   other   suggestions:

....
........The session was very interesting and useful.
....
....

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Department of Electrical and Electronics Engineering

Value added Course Feedback Form

Name of the Student: Prabhu.S

Course Title : EE 2 201. Solar Technology

Date : 10|09|22

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well-prepared for class				✓	
2	The instructor was organized and used class time efficiently					✓
3	The instructor presented the course material in a clear the manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any   other   suggestions:

....
.... Very useful and informative ....
....
....

Department of Electrical and Electronics Engineering
Value added Course Report (2022-2023)

Ref No: SPCET/EEE /2022-23/ODD/VAC/EE2201

Course Code and Name	EE2201 Solar Technology
Course Duration	45 Hours
Year Offered	II, III & IV Year ECE&EEE Students 2022-2023
Course Coordinator	Ms.V.S.Veena AP/EEE
Course Type	Self-framed Course, approved by the department academic council
Number of Students Enrolled	65
Number of Students Appeared	65
Number of Students Passed	65
Date	22.08.22 to 26.08.22, 27.08.22,03.09.22,10.09.22

Course Outcome

On completion of the course, students will be able to

CO1: Understand the physics and technology of solar PV

CO2: Apply system design approaches for various application of solar PV

CO3: Apply system design approaches for various application of thermal technologies

Assessment mode

Scheme of Exam   : MCQ Type

Date of Exam   : 10.09.2022

Course outcome attainment

Course is successfully completed with the Attainment Level 1.

List of Feedback Questions

Q1. The instructor was well prepared for class
Q2. The instructor was organized, well prepared, and used class time efficiently
Q3. The instructor presented course material in a clear manner that facilitated understanding

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Q4. This class has increased my interest in this field of study

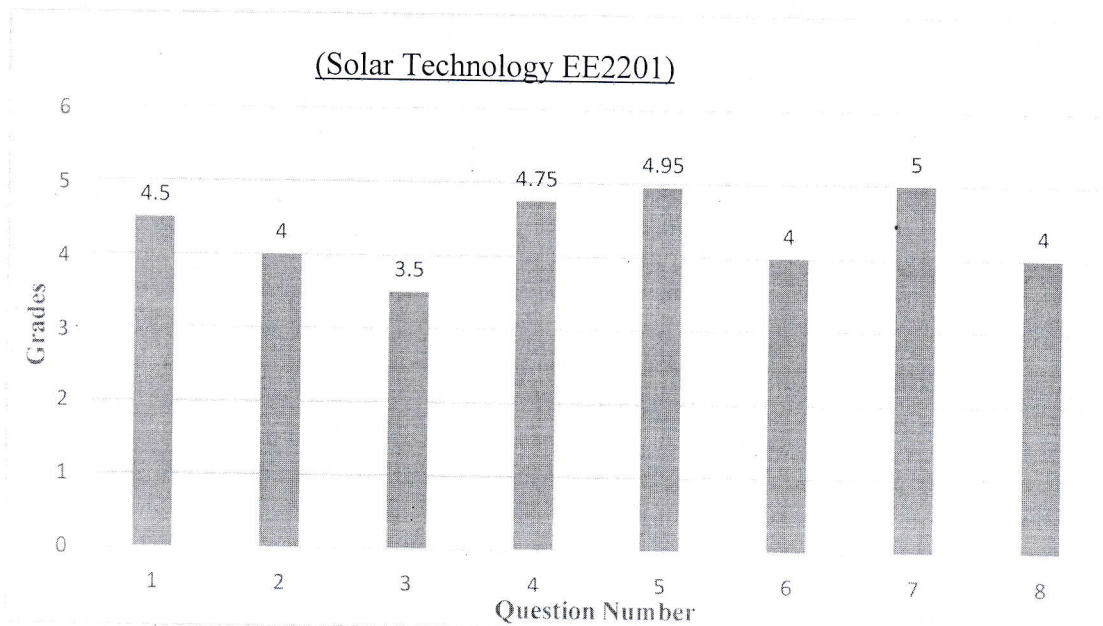Q5. The readings were appropriate to the goals of the course

Q6. I have put a great deal of effort into advancing my learning in this course

Q7. I would highly recommend this course to other students

Q8. The grading practices were fair.

Course Feedback

The feedback was obtained from the participants after end the course and the detailed analysis report are listed below.

(Solar Technology EE2201)

The feedback comments obtained were put forth in the department meeting and discussed. The drawbacks will be rectified in the forthcoming value-added courses.

Course Coordinator

HoD

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AVADI, CHENNAI, TAMIL NADU-600 054.

CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Geetha. V_ from _IV – Electronics & Communication Engineering_ has participated in the value added course titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022 to 10th September 2022.

Principal

HoD

Coordinator

St. PETER'S

COLLEGE OF ENGINEERING AND TECHNOLOGY

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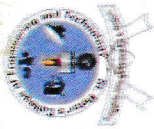AVADI, CHENNAI, TAMIL NADU-600 054.

CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Vaseekaran . R_ from _IV Electronics & Communication Engineering_ has participated in the value added course titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022 to 10th September 2022.

Principal

HoD

Coordinator

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CERTIFICATE OF PARTICIPATION

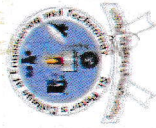This certificate is awarded to Mr./Ms _Kalpana. K.M_ from

III - Electronics & Communication Engineering has participated in the value added course

titled "**EE 2201- SOLAR TECHNOLOGY**" offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

to 10th September 2022.

Coordinator

HoD

Principal

Principal

HoD

Coordinator

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Gokul. R_ from

II- Electronics & Communication Engineering has participated in the value added course

titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

to 10th September 2022.

Coordinator

HoD

Principal

Coordinator

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Kavin. S_

II - Electronics & Communication Engineering has participated in the value added course

titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

to 10th September 2022.

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _____ Vijay . V _____ from

II - Electronics & Communication Engineering -has participated in the value added course

titled "EE 2201- SOLAR TECHNOLOGY" offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms ___Umapathy. B___ from ___IV- Electrical & Electronics Engineering___ has participated in the value added course titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22ⁿᵈ August 2022 to 10ᵗʰ September 2022.

Principal

HoD

Coordinator

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CERTIFICATE OF PARTICIPATION

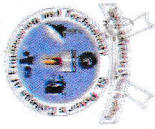This certificate is awarded to Mr./Ms _Gopi. A_

III- Electrical & Electronics Engineering ----has participated in the value added course

titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

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Principal

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Sriram. P_ from

III --Electrical & Electronics Engineering----- has participated in the value added course

titled **"EE 2201- SOLAR TECHNOLOGY"** offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

to 10th September 2022.

Principal

HoD

Coordinator

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CERTIFICATE OF PARTICIPATION

This certificate is awarded to Mr./Ms _Rakesh. V. R_ from

II - Electrical & Electronics Engineering has participated in the value added course

titled "**EE 2201- SOLAR TECHNOLOGY**" offered by Department of Electrical & Electronics

Engineering, St. Peter's College of Engineering and Technology, Avadi, Chennai from 22nd August 2022

to 10th September 2022.

Coordinator

HoD

Principal

29/07/2022

To

The Principal,

Respected Sir

Sub: Permission to conduct Value Added Course - Reg.

The Department of Mechanical Engineering offers a value-added course during the Academic Year 2022-2023 ODD Semester. In this respect, kindly provide permission to conduct value-added courses per the schedule below.

Name of the course with code	Date	Duration in Hours	Availability in Curriculum
MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH	27/08/2022 to 29/10/2022 (Only on Saturday afternoon)	35 Hrs	No

Thanking you

29/7/22

HOD/Mech

Department of Mechanical Engineering

Circular

17/08/2022

Ref No: SPCET/ Mech /2022-23/ODD/VAC/MAE2201

The Department of Mechanical Engineering has scheduled a Value-Added course on "MAE2201-Thermal and Structural Analysis by ANSYS Workbench" for Mechanical students from 27/08/2022 to 29/10/2022. The course will take place on Saturday afternoons and will last for a total of 35 hours. Students from other departments are welcome to enroll if the course content is relevant to their studies. It is open to anyone who is interested, and students are encouraged to seize this opportunity to expand their knowledge.

Venue: CAD LAB, Block-III, SPCET

Course Coordinator   HoD   Principal

Copy to:

    All HOD's

    IQAC cell

    Chairperson/Trustee/Secretary kind information

Department of Mechanical Engineering

Value added Course Schedule

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Date	Hours	Topics	Resource Person
27-08-2022 03-09-2022	4 Hrs 1 Hr	Introduction of ANSYS	Mr. S. Abilash,
03-09-2022 10-09-2022	3 Hrs 3 Hrs	Geometry Creation and Meshing Using Ansys Workbench	Mr. Mohammed Haneef
10-09-2022 17-09-2022 24-09-2022	1 Hr 4 Hrs 3 Hrs	Static Structural Analysis in ANSYS Workbench	Dr.M.Karthigairajan
24-09-2022 01-10-2022 08-10-2022	1 Hrs 4 Hrs 3 Hrs	Thermal analysis in ANSYS WORKBENCH	Dr.M.Karthigairajan Mr. S. Jebamani
08-10-2022 22-10-2022 29-10-2022	1 Hrs 4 Hrs 3 Hrs	Practice	Mr. Mohammed Haneef Mr. S. Abilash,
29-10-2022	1 Hr	Assessment	Mr. S. Abilash,

Course Coordinator   **HoD/Mech**   **Principal**

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

DEPARTMENT OF MECHANICAL ENGINEERING
STUDENT ENROLMENT LIST

S. No.	Year	Register No.	Name of the Student	Signature
1	III Aero	112720101001	Seenivasan.K	
2	III Aero	112720101002	Sridhar.M	
3	III Aero	112720101003	Yokesh kumar.V	
4	III Aero	112720101004	Yokeshvaran.V	
5	III Aero	112720101301	Surya Prakesh	
6	II Aero	112721101001	Sharmila.T	
7	II Aero	112721101002	Sumaiya Nuzrath. M	
8	II Aero	112721101003	Trisha Priyavarshini . G	
9	IV Aero	112719101001	Aadhavan.A	
10	IV Aero	112719101002	Alex.K	
11	IV Aero	112719101003	Balaji.G	
12	IV Aero	112719101003	Dineshkumar.G	
13	IV Aero	112719101007	Hariharan.D	
14	IV Aero	112719101009	Kalaiselvan.D	
15	IV Aero	112719101011	Libena.M	
16	IV Aero	112719101013	Nairina Joe L	
17	IV Aero	112719101014	Prithiviraj B	
18	IV Aero	112719101015	Shabniya Mary J	
19	IV Aero	112719101019	Velmurugan H	
20	III Mech	112720114001	D. Akash	
21	III Mech	112720114004	D.Kaaviyan	
22	III Mech	112720114007	JP. Richard Aloshyas	
23	III Mech	112720114301	S.Balaji	
24	III Mech	112720114302	M.Cheranjeevi	
25	III Mech	112720114306	K.Mohan	
26	III Mech	112720114307	M.Mugundhan	
27	III Mech	112720114308	M.Poobalan	
28	III Mech	112720114309	A.Prasanth	
29	II Mech	112720114311	S.Sivaraman	
30	II Mech	112720114310	R.Prathyas	
31	II Mech	112720114312	R.Udhayakumar	
32	II Mech	112721114001	R. Ajai Rohith Singh	
33	II Mech	112721114002	V.Guna	
34	II Mech	112721114301	S.Abishek	
35	IV Mech	112721114302	V.Ajithkumar	
36	IV Mech	112721114303	R.Karthik	
37	IV Mech	112721114304	A.Kishore	

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S. No.	Year	Register No.	Name of the Student	Signature
38	IV Mech	112719114001	Afthaab Abdulla	
39	IV Mech	112719114002	S.Ajay pandiyan	
40	IV Mech	112719114003	J.Alvin Gershan	
41	IV Mech	112719114004	Deepak Pakala	
42	IV Mech	112719114008	M.Jeyasurya	
43	IV Mech	112719114009	S.Kishore	
44	IV Mech	112719114010	D.Pavun Kumar	
45	IV Mech	112719114302	T.T.Aravind Balaji	
46	IV Mech	112719114303	G.K.Bhuvan Kumar	
47	IV Mech	112719114304	T.Daniel	
48	IV Mech	112719114014	R.Ranish	
49	IV Mech	112719114016	K.Sathish	
50	IV Mech	112719114307	M.Parthasarathy	

Course Coordinator

HoD/MECH

Value-added Course on

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

27.08.2022 to 29.10.2022

Course Coordinator

Mr.S.Abilash

Organised by

Department of Mechanical Engineering

St. PETER'S COLLEGE OF ENGINEERING & TECHNOLOGY

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& ISO 9001: 2015 Certified
Avadi, Chennai-600 054
Ph: 044-26558089
www.spcet.ac.in

About the Institution

St. Peter's College of Engineering and Technology, a co-educational college was established by Lakshmi Saraswathi Educational Trust in the year 2008. The college aims to impart training to students to develop their Intellectual powers, identify and cultivate interests and talents, and train them to become responsible and eminent citizens of India.

The college is located in a serene environment in Avadi. There are many industries in and around the college including one of the largest industrial estates in Ambattur. The College is easily commutable by bus and train. Annanur railway station, on the Chennai Central- Tiruvallur broad gauge section is just 1.5 km. from our College. The College also runs buses from different parts of the students. Separate hostel facilities are available for boys and girls.

About the Department of Mechanical

The Department of Mechanical Engineering was established in the year 2008-2009 with the basic objective of providing a quality learning environment, in terms of inspiring teachers, state-of-the-art facilities, experience sharing and widening the knowledge, interacting with experts from academia and industry, facilitating the student in the process of growth in the Mechanical Engineering field. Right from its inception, the department has been offering well-built infrastructural facilities with different technical platforms for grooming professional students to meet the persistent demands of the industries. The Department of Mechanical Engineering has well-equipped with modern laboratories.

Engineering Practice Lab has a foundry, welding, sheet metal, plumbing and carpentry sections. Manufacturing Technology Lab is having 23 engine lathes and various special machines. Strength of Materials lab has various testing equipment especially 100-ton capacity UTM for Research purposes. For CAD & Simulation lab, there is one Servers connected to 70 distributed nodes and having 60 Solid works software and Master CAM software licences.
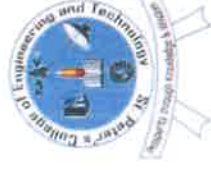
Resource Persons

Dr.M.Karthigairajan
Associate Professor,
Department of Mechanical Engineering,
Gojan School of Business and Technology.

Mr. S.Jebamani,
Assistant Professor,
Department of Mechanical Engineering,
St. Peter's College of Engineering and Technology.

Mr.S.Abilash,
Assistant Professor,
Department of Mechanical Engineering,
St. Peter's College of Engineering and Technology.

Mr. Mohammed Haneef
Assistant Professor,
Department of Mechanical Engineering,
St. Peter's College of Engineering and Technology.

About the Course: The Department of Mechanical Engineering organised Thermal and Structural Analysis Using ANSYS Workbench to teach students how to effectively use the ANSYS software for various structural and thermal analyses.

Course Objectives:

- The students will learn about what is finite element analysis and finite element methods.

- The students will learn about ANSYS workbench FEA numerical engineering problem solver.

- The students will learn a step-by-step procedure to solve engineering problems using ANSYS.

- The students will learn how to define contacts and boundary conditions.

Outcomes:

✓ The students will be able to work with different ANSYS analysis tools in workbench.

✓ The students will be able to determine how a product will function with different specifications.

✓ The students will be able to learn simulate engineering problems.

✓ The students understand analysing and solving Structural and Thermal problems.

Sessions

1. Introduction of ANSYS

2. Geometry Creation and Meshing Using Ansys Workbench

3. Static Structural Analysis in ANSYS Workbench

4. Thermal analysis in ANSYS WORKBENCH

5. Practice

6. Assessment

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

RESOURCE PERSON DETAIL

Dr.M.Karthigairajan
Associate Professor/ HOD,
Department of Mechanical Engineering,
Gojan School of Business and Technology.

Dr.M.Karthigairajan working as an HOD in the Department of Mechanical at Gojan School of Business and Technology has completed his B. E Mechanical and M. E Thermal Engineering and PhD from Anna University. His area of Specialization is thermal science.
Contact Details: MOB: 9790985685   **Mail Id:** karthigairajan.m@gmail.com

Mr. S. Jebamani
Assistant Professor,
St. Peter's College of Engineering and Technology

Mr. S. Jebamani working as an Assistant Professor in the Department of Mechanical Engineering at St. Peter's College of Engineering and Technology has completed her B.E. His area of specialization is manufacturing and analysis.

Contact Details: MOB: 9445637983   **Mail Id:** jebamani.s@spcet.ac.in

Mr. S. Abilash,
Assistant Professor,
St. Peter's College of Engineering and Technology

Mr. S. Abilash working as an Assistant Professor in the Department of Mechanical Engineering at St. Peter's College of Engineering and Technology has completed her Mechanical Engineering (2007), and M.E. Engineering Design (2010). He has rich knowledge in report writing, combat products design and development also he is currently involved in various academic-industrial projects related to social needs and also, he acts as department ISO coordinator.
Contact Details: MOB: 9443446781   **Mail Id:** abilash.s@spcet.ac.in

Mr. Mohammed Haneef
Assistant Professor
St. Peter's college of Engineering and Technology
        Mr. Mohammed Haneef working as an Assistant Professor in the Department of Aeronautical at St. Peter's College of Engineering and Technology has completed his B. E in Mechanical engineering from Anna University and M.E in Aerospace from Monash University (Australia).
Contact Details: MOB: 9790831543   **Mail Id:** mohammedhaneef@spcet.ac.in

Course Coordinator   **HoD**

Department of Mechanical Engineering

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Course Objective
- The students will learn about what is finite element analysis and finite element methods.
- The students will learn about ANSYS workbench FEA numerical engineering problem solver.
- The students will learn a step-by-step procedure to solve engineering problems using ANSYS.
- The students will learn how to define contacts and boundary conditions.

UNIT I- INTRODUCTION OF ANSYS   5Hrs
Introduction to ANSYS Workbench- Overview of Ansys workbench, Defining parameters and materials assignment. Introduction to FEA, Basics of statics and strength of materials.

UNIT II- GEOMETRY CREATION AND MESHING USING ANSYS WORKBENCH   6Hrs

Basics geometry creation, Creation of complex component using various sketch commands and solid features, Introduction to ANSYS Meshing, Different types of Meshing Method, Mechanical Model and Finite Element Modeler

UNIT III-STATIC STRUCTURAL ANALYSIS IN ANSYS WORKBENCH   8Hrs

Static Structural analysis of 3D Geometry, Static Structural analysis of Knuckle Joint

UNIT IV- THERMAL ANALYSIS IN ANSYS WORKBENCH   8Hrs

Steady State Thermal analysis of Piston, Thermal analysis of Sprocket- Boundary conditions for the complex components, Stress concentration area definition. And shape optimization.

Hands on activity-   8Hrs

Solid Modeling, Turbulence Model, Hear Transfer Analysis and Siphoning Model

Course Outcome (COs)
- The students will be able to work with different ANSYS analysis tools in workbench.
- The students will be able to determine how a product will function with different specifications.
- The students will be able to learn simulate engineering problems.
- The students understand analyzing and solving complex mechanical problems.

Reference(s)
1. "Computational Fluid Dynamics", T. J. Chung, Cambridge University Press
2. "The Handbook of Fluid Dynamics", R. W. Johnson, CRC Press
3. Ansys Fluent Guide Ansys User Portal:https://support.ansys.com/portal/site/Ansys
4. CFD Forum: http://www.cfd-online.com/

Department of Mechanical Engineering

Value added Course Schedule

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

1. Real constants in ANSYS indicate

(a) Material properties

(b) Section properties

(c) Thermal properties

(d) Nodal loads

2. A state of _____ will exist in a solid when the thickness dimension is much larger

than other two dimensions

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions

d) Plane pressure conditions

3. Dam structure with _____ assumption

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions

d) Plane pressure conditions

4. The strain energy is a form of energy that is stored in the solid due to the _____.

a) Rigid deformation

b) Unbending deformation

c) Inflexible deformation

d) Elastic deformation

5. Displacement is a linear function, strain and stress are constant within an element

is called

a) Linear triangle

 b) Axisymmetric element

c) Constant strain triangle element

d) Unsymmetrical element

6. This triangular element, _____ per node chooses linear displacement functions

for u and v and hence gives constant strain terms over the entire element

a) 4 nodes and 6 DOF

b) 3 nodes and 2 DOF

c) 4 nodes and 6 DOF

d) 2 nodes and 3 DOF

7. These are the elements having no internal nodes

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

8. These are the elements having internal nodes which can be condensed out at the

element level before assembling.

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

9. The standard method of inverting a matrix (the stiffness matrix) to yield the unknown nodal values of the field variable.

a) CRAMER'S method

b) Gaussian elimination method

c) Direct method

d) Penalty Method

10. Any element with a second order or non-liner interpolation function called as

a) Lower order element

b) Polynomial order element

c) Higher order element

d) Liner order element

11. A material with same mechanical properties in three mutually perpendicular directions.

a) Orthotropic material

b) Smart material

c) Non- linearity material

d) Isotropic material

12. Where the geometry of the problem changes significantly so that a linear analysis is no longer acceptable. This might be due to large displacements or stress stiffening.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

13. Where the material behaviour is not governed by a linear stress-strain relationship (in stress problems), such as those material considered in plasticity and creep problems.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

14. The matrix, which contains the Young's modulus and Poisson's ratio details in stress problems and thermal conductivities in thermal problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

15. A material with symmetric mechanical properties in two perpendicular directions

a) Non- linearity material

b) Orthotropic materials

c) Isotropic material

d) Smart material

16. The matrix, which relates force to displacement in stress problems and applied heat to temperature problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

17. The strain produced in an element due to a change in temperature.

a) Lateral strain

b) Shear strain

c) Heat flux

d) Thermal strain

18. A method of predicting when a material can be considered to have failed.

a) FMEA method

b) DFMA method

c) Von-Mises failure criterion

d) Hybrid method

19. _____heat transfer is due to molecular movement of fluid such as air or water, when the fluid is caused to move away from the source of heat, carrying with it.

a) Convection

b) Conduction

c) Heat flux

d) Radiation

20. _____ is the transfer of energy via electromagnetic waves.

a) Convection

b) Conduction

c) Heat flux

d) Radiation

21. ANSYS uses

a) Frontal solution

b) 'Cramer's rule

c) Banded matrix solution

d) Cholesky decomposition

22. Consistent loads are based on

a) Stress equilibrium

b) Displacement continuity

c) Energy equivalence

d) Force balance

23. Within elastic limit, results due to a combination of loads is same as linear superposition of results by each of those loads

a) Always true

b) Always false

c) Sometimes true

d) Needs repeated analysis

24. As a default option, mesh is refined in ANSYS using

a) g-method

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25. Loads command in ANSYS includes

a) Loads only

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c) Loads or displacements

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MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: MOHAN KUMAR [112 7 20 114 306]   **Year/Dept:** 3rd / MECH
Date: 29. 10 . 2022

Answer all the question

1. Real constants in ANSYS indicate

(a) Material properties

(b) Section properties ✓

(c) Thermal properties

(d) Nodal loads

2. A state of _____ will exist in a solid when the thickness dimension is much larger

than other two dimensions

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions ✓

d) Plane pressure conditions

3. Dam structure with _____ assumption

a) Plane strain conditions ✓

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c) Plane tension conditions

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4. The strain energy is a form of energy that is stored in the solid due to the _____.

a) Rigid deformation

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c) Inflexible deformation

d) Elastic deformation

5. Displacement is a linear function, strain and stress are constant within an element

is called

a) Linear triangle

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c) Constant strain triangle element

d) Unsymmetrical element

6. This triangular element, _____ per node chooses linear displacement functions

for u and v and hence gives constant strain terms over the entire element

a) 4 nodes and 6 DOF

b) 3 nodes and 2 DOF

c) 4 nodes and 6 DOF

d) 2 nodes and 3 DOF

7. These are the elements having no internal nodes

a) Lagrange elements

b) Serendipity elements

c) Symmetric

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8. These are the elements having internal nodes which can be condensed out at the

element level before assembling.

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9. The standard method of inverting a matrix (the stiffness matrix) to yield the unknown nodal values of the field variable.

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10. Any element with a second order or non-liner interpolation function called as

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a) Orthotropic material

b) Smart material

c) Non- linearity material

d) Isotropic material

12. Where the geometry of the problem changes significantly so that a linear analysis is no longer acceptable. This might be due to large displacements or stress stiffening.

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MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: J. Alvin gershan [1127 19114003]   Year/Dept: 4th/Mech
Date: 29. 10. 2022

Answer all the question

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6

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: 11272 0101003 / YOKESH KUMAR   **Year/Dept:** III / Aero
Date: 29/10/2022

Answer all the question

42/50   84

29/10/22

1. Real constants in ANSYS indicate

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MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: 11272110100 /Shasmila.T   **Year/Dept:** II / AERO

Date: 29/10/2622

Answer all the question

1. Real constants in ANSYS indicate

(a) Material properties

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2. A state of _____ will exist in a solid when the thickness dimension is much larger than other two dimensions

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MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: S. BALAJI [112720114301]   **Year/Dept:** III yr/ MECH
Date: 29/10/2022

Answer all the question

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(a) Material properties

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MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: 11 2719 1 01003 /Balaji. G   **Year/Dept:** IV yr / Aero

Date: 29/10/2022

$\frac{38}{50}$ 76

Answer all the question

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21. ANSYS uses

a) Frontal solution

b) 'Cramer's rule

c) Banded matrix solution

d) Cholesky decomposition

22. Consistent loads are based on

a) Stress equilibrium

b) Displacement continuity

c) Energy equivalence

d) Force balance

23. Within elastic limit, results due to a combination of loads is same as linear superposition of results by each of those loads

a) Always true

b) Always false

c) Sometimes true

d) Needs repeated analysis

24. As a default option, mesh is refined in ANSYS using

a) g-method

b) h-method

c) p-method

d) r-method

25. Loads command in ANSYS includes

a) Loads only

b) Loads & stresses

c) Loads or displacements

d) Loads & displacements

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: Udhaya kumar [112720114312]   **Year/Dept:** 3rd / MECHANICAL

Date: 29.10.2022

Answer all the question

36/50   72

1. Real constants in ANSYS indicate

(a) Material properties

(b) Section properties

(c) Thermal properties

(d) Nodal loads

2. A state of _____ will exist in a solid when the thickness dimension is much larger than other two dimensions

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions

d) Plane pressure conditions

3. Dam structure with _____ assumption

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions

d) Plane pressure conditions

4. The strain energy is a form of energy that is stored in the solid due to the _____.

a) Rigid deformation

b) Unbending deformation

c) Inflexible deformation

d) Elastic deformation

5. Displacement is a linear function, strain and stress are constant within an element

is called

a) Linear triangle

 b) Axisymmetric element

c) Constant strain triangle element

d) Unsymmetrical element

6. This triangular element, _____ per node chooses linear displacement functions

for u and v and hence gives constant strain terms over the entire element

a) 4 nodes and 6 DOF

b) 3 nodes and 2 DOF

c) 4 nodes and 6 DOF

d) 2 nodes and 3 DOF

7. These are the elements having no internal nodes

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

8. These are the elements having internal nodes which can be condensed out at the

element level before assembling.

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

9. The standard method of inverting a matrix (the stiffness matrix) to yield the unknown nodal values of the field variable.

a) CRAMER'S method

b) Gaussian elimination method

c) Direct method

d) Penalty Method

10. Any element with a second order or non-liner interpolation function called as

a) Lower order element

b) Polynomial order element

c) Higher order element

d) Liner order element

11. A material with same mechanical properties in three mutually perpendicular directions.

a) Orthotropic material

b) Smart material

c) Non- linearity material

d) Isotropic material

12. Where the geometry of the problem changes significantly so that a linear analysis is no longer acceptable. This might be due to large displacements or stress stiffening.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

13. Where the material behaviour is not governed by a linear stress-strain relationship (in stress problems), such as those material considered in plasticity and creep problems.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

14. The matrix, which contains the Young's modulus and Poisson's ratio details in stress problems and thermal conductivities in thermal problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

15. A material with symmetric mechanical properties in two perpendicular directions

a) Non- linearity material

b) Orthotropic materials

c) Isotropic material

d) Smart material

16. The matrix, which relates force to displacement in stress problems and applied heat to temperature problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

17. The strain produced in an element due to a change in temperature.

4

a) Lateral strain

b) Shear strain

c) Heat flux

d) Thermal strain

18. A method of predicting when a material can be considered to have failed.

a) FMEA method

b) DFMA method

c) Von-Mises failure criterion

d) Hybrid method

19. _____heat transfer is due to molecular movement of fluid such as air or water,

when the fluid is caused to move away from the source of heat, carrying with it.

a) Convection

b) Conduction

c) Heat flux

d) Radiation

20. _____ is the transfer of energy via electromagnetic waves.

a) Convection

b) Conduction

c) Heat flux

d) Radiation

21. ANSYS uses

a) Frontal solution

b) 'Cramer's rule

c) Banded matrix solution

d) Cholesky decomposition

22. Consistent loads are based on

a) Stress equilibrium

b) Displacement continuity

c) Energy equivalence

d) Force balance

23. Within elastic limit, results due to a combination of loads is same as linear superposition of results by each of those loads

a) Always true

b) Always false

c) Sometimes true

d) Needs repeated analysis

24. As a default option, mesh is refined in ANSYS using

a) g-method

b) h-method

c) p-method

d) r-method

25. Loads command in ANSYS includes

a) Loads only

b) Loads & stresses

c) Loads or displacements

d) Loads & displacements

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH – MCQ

Time: 1 Hr.

Name: Surya prakash [112720101301]   Year/Dept: 3rd / AERO

Date: 29.10.2022

Answer all the question

1. Real constants in ANSYS indicate

(a) Material properties

(b) Section properties

(c) Thermal properties

(d) Nodal loads

2. A state of _____ will exist in a solid when the thickness dimension is much larger than other two dimensions

a) Plane strain conditions

 b) Plane stress conditions

 c) Plane tension conditions

 d) Plane pressure conditions

3. Dam structure with _____ assumption

a) Plane strain conditions

b) Plane stress conditions

c) Plane tension conditions

d) Plane pressure conditions

4. The strain energy is a form of energy that is stored in the solid due to the _____.

a) Rigid deformation

b) Unbending deformation

44/50

1

c) Inflexible deformation

d) Elastic deformation

5. Displacement is a linear function, strain and stress are constant within an element

is called

a) Linear triangle

b) Axisymmetric element

c) Constant strain triangle element

d) Unsymmetrical element

6. This triangular element, _____ per node chooses linear displacement functions

for u and v and hence gives constant strain terms over the entire element

a) 4 nodes and 6 DOF

b) 3 nodes and 2 DOF

c) 4 nodes and 6 DOF

d) 2 nodes and 3 DOF

7. These are the elements having no internal nodes

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

8. These are the elements having internal nodes which can be condensed out at the

element level before assembling.

a) Lagrange elements

b) Serendipity elements

c) Symmetric

d) Unsymmetrical element

9. The standard method of inverting a matrix (the stiffness matrix) to yield the unknown nodal values of the field variable.

a) CRAMER'S method

b) Gaussian elimination method

c) Direct method

d) Penalty Method

10. Any element with a second order or non-liner interpolation function called as

a) Lower order element

b) Polynomial order element

c) Higher order element

d) Liner order element

11. A material with same mechanical properties in three mutually perpendicular directions.

a) Orthotropic material

b) Smart material

c) Non- linearity material

d) Isotropic material

12. Where the geometry of the problem changes significantly so that a linear analysis is no longer acceptable. This might be due to large displacements or stress stiffening.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

13. Where the material behaviour is not governed by a linear stress-strain relationship (in stress problems), such as those material considered in plasticity and creep problems.

a) Material non-linearity

b) Geometric non-linearity

c) Hybrid non-linearity

d) Thermal non-linearity

14. The matrix, which contains the Young's modulus and Poisson's ratio details in stress problems and thermal conductivities in thermal problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

15. A material with symmetric mechanical properties in two perpendicular directions

a) Non- linearity material

b) Orthotropic materials

c) Isotropic material

d) Smart material

16. The matrix, which relates force to displacement in stress problems and applied heat to temperature problems.

a) Stiffness Matrix

b) Material property matrix

c) Strain energy matrix

d) Inverting a matrix

17. The strain produced in an element due to a change in temperature.

a) Lateral strain

b) Shear strain

c) Heat flux

d) Thermal strain

18. A method of predicting when a material can be considered to have failed.

a) FMEA method

b) DFMA method

c) Von-Mises failure criterion

d) Hybrid method

19. _____heat transfer is due to molecular movement of fluid such as air or water,

when the fluid is caused to move away from the source of heat, carrying with it.

a) Convection

b) Conduction

c) Heat flux

d) Radiation

20. _____ is the transfer of energy via electromagnetic waves.

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b) Conduction

c) Heat flux

d) Radiation

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d) Cholesky decomposition

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d) Force balance

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b) Always false

c) Sometimes true

d) Needs repeated analysis

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a) g-method

b) h-method

c) p-method

d) r-method

25. Loads command in ANSYS includes

a) Loads only

b) Loads & stresses

c) Loads or displacements

d) Loads & displacements

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Value added Course Mark Sheet

S. No.	Register No.	Name of the Student	Marks (100)
1.	112720101001	Seenivasan.K	64
2.	112720101002	Sridhar.M	72
3.	112720101003	Yokesh kumar.V	84
4.	112720101004	Yokeshvaran.V	92
5.	112720101301	Surya Prakesh	88
6.	112721101001	Sharmila.T	96
7.	112721101002	Sumaiya Nuzrath. M	92
8.	112721101003	Trisha Priyavarshini . G	88
9.	112719101001	Aadhavan.A	76
10.	112719101002	Alex.K	72
11.	112719101003	Balaji.G	76
12.	112719101003	Dineshkumar.G	88
13.	112719101007	Hariharan.D	92
14.	112719101009	Kalaiselvan.D	88
15.	112719101011	Libena.M	84
16.	112719101013	Nairina Joe L	80
17.	112719101014	Prithiviraj B	76
18.	112719101015	Shabniya Mary J	84
19.	112719101019	Velmurugan H	88
20.	112720114001	D. Akash	92
21.	112720114004	D.Kaaviyan	96
22.	112720114007	JP. Richard Aloshyas	68
23.	112720114301	S.Balaji	64
24.	112720114302	M.Cheranjeevi	72
25.	112720114306	K.Mohan	72
26.	112720114307	M.Mugundhan	68
27.	112720114308	M.Poobalan	92
28.	112720114309	A.Prasanth	80
29.	112720114311	S.Sivaraman	72
30.	112720114310	R.Prathyas	66
31.	112720114312	R.Udhayakumar	72
32.	112721114001	R. Ajai Rohith Singh	76
33.	112721114002	V.Guna	64
34.	112721114301	S.Abishek	56

S. No.	Register No.	Name of the Student	Marks (100)
35.	112721114302	V.Ajithkumar	68
36.	112721114303	R.Karthik	84
37.	112721114304	A.Kishore	64
38.	112719114001	Afthaab Abdulla	68
39.	112719114002	S.Ajay pandiyan	60
40.	112719114003	J.Alvin Gershan	56
41.	112719114004	Deepak Pakala	72
42.	112719114008	M.Jeyasurya	56
43.	112719114009	S.Kishore	64
44.	112719114010	D.Pavun Kumar	72
45.	112719114302	T.T.Aravind Balaji	88
46.	112719114303	G.K.Bhuvan Kumar	92
47.	112719114304	T.Daniel	88
48.	112719114014	R.Ranish	80
49.	112719114016	K.Sathish	72
50.	112719114307	M.Parthasarathy	80

No of Students getting more than 70%	36
%of Students getting more than 70%	72 %

CO Attainment: Course is successfully completed with the Attainment Level 3

Rubrics:

Assessment Level	CO's Percentage	Performance	Remarks
Level 1	90-100%	Excellent	All-important info adequately delivered and shows proficient understanding of the subject matter
Level 2	80-90%	Very good	Most of the important info are delivered and shows adequate understanding of the subject matter
Level 3	70-80%	Good	Some of the important info are delivered and shows a basic understanding of the subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered but doesn' show adequate understanding of the subject matter

Level 5	<50%	Poor	None of the important info are delivered and failed to show an understanding of the subject matter

Course Coordinator 　　　　HoD/Mech 　　　　Principal

Department of Mechanical Engineering

VALUE ADDED COURSE REPORT (2022-23)

Ref No: SPCET/ Mechanical /2022-23 /ODD/VAC/MAE2201

Course Code and Name	**MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH**
Course Duration	35 Hours
Year Offered	II, III and IV-Year Students 2022-2023
Course Coordinator	Mr. S.Abilash /AP, Mech
Course Type	Self-framed Course
Curriculum Relevance	Not Available in Curriculum
Number of Students Enrolled	50
Number of Students Appeared	50
Number of Students Passed	50
Date	27/08/2022 to 29/10/2022 (only on Saturday afternoon)

Course Outcome

Upon the completion of this course the students will be able to
- Work with different ANSYS analysis tools in workbench.
- Determine how a product will function with different specifications.
- Learn simulate engineering problems.
- Understand analyzing and solving complex mechanical problems.
- Correlate the Learner with actual engineering problems.
- Do static structural analysis.
- Do thermal analysis.

Assessment mode

Scheme of Exam   : MCQ Type

Date of Exam   : 29.10.2022

Course outcome attainment

Course is successfully completed with the Attainment Level 3.

List of Feedback Questions

Q1. The instructor was well prepared for class

Q2. The instructor was organized, well prepared, and used class time efficiently

Q3. The instructor presented course material in a clear manner that facilitated understanding

Q4. This class has increased my interest in this field of study

Q5. The readings were appropriate to the goals of the course

Q6. I have put a great deal of effort into advancing my learning in this course

Q7. I would highly recommend this course to other students

Q8. The grading practices were fair.

VALUE ADDED COURSE REPORT (2022-23)

Course Feedback

The feedback was obtained from the participants after end the course and the detailed analysisreport are listed below

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH - Student's Feedback

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Grading Value	4.4	4.5	4.3	4.5	4.5	4.5	4.2	4.3

The feedback comments had obtained from the participants and it has been discussed in the department meeting. The pros and cons were analysed and it is suggested to be rectified in the next forth coming courses

Course Coordinator

HoD

St.PETER'S COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to Anna University & ISO 9001: 2015

College Road, Avadi, Chennai – 600 054

CERTIFICATEOF PARTICIPATION

This is to Certify that Mr./Mrs. _____

from _____

has sucessfully completed the value-added course titled "MAE2201-Thermal and Structural Analysis by ANSYS Workbench" offered by the Department of Mechanical Engineering held, St.Peter's College of Engineering and Technology, Avadi, Chennai-54, from 27.08.2022 to 29.10.2023 (35 Hours).

Principal

HOD

Coordinator

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : λ' ramish

Date : 27/10/2022

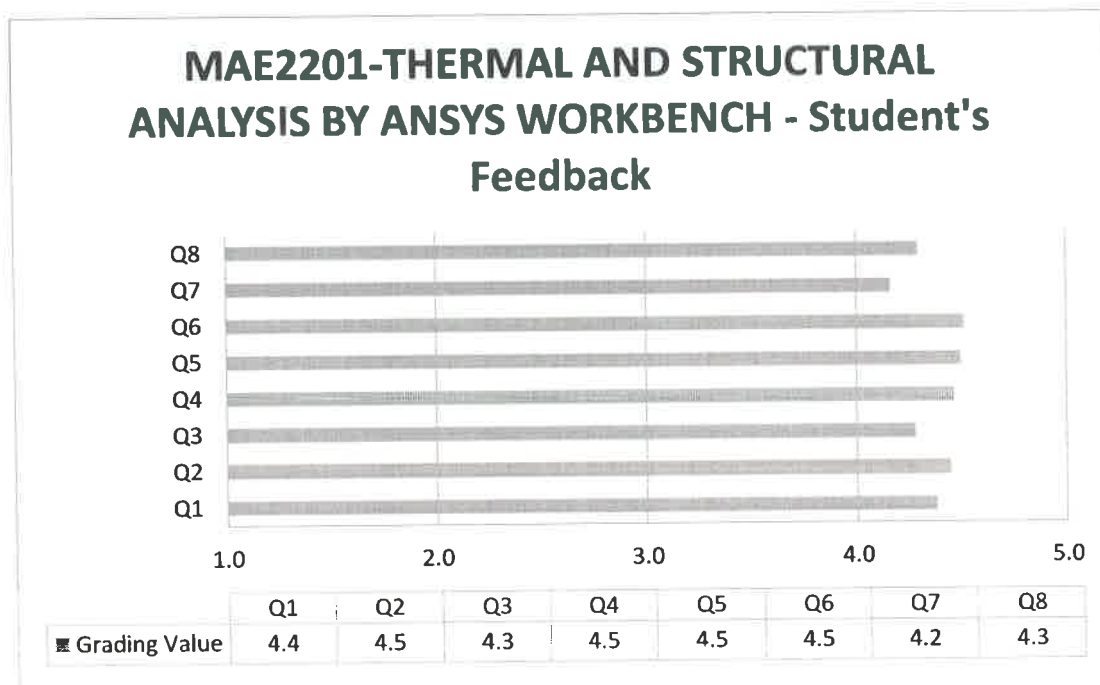| S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students			✓		
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:

....nill...

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Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student   : M . Boobalan

Date   : 27/10/2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students			✓		
8	The grading practices were fair				✓	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

......................................good..

....

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Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : Dinesh Kumar. G

Date : 27|10|2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✔	
2	The instructor was organized, well prepared, and used class time efficiently					✔
3	The instructor presented course material in a clear manner that facilitated understanding				✔	
4	This class has increased my interest in this field of study			✔		
5	The readings were appropriate to the goals of the course				✔	
6	I have put a great deal of effort into advancing my learning in this course					✔
7	I would highly recommend this course to other students			✔		
8	The grading practices were fair				✔	

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:
.................Conducted class in daily.................................
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....
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Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : SHABNIYA MARY

Date : 27|10|22

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized, well prepared, and used class time efficiently			✓		
3	The instructor presented course material in a clear manner that facilitated understanding			✓		
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair			✓		

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.... Nil. ....

....

....

....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student   : T.T. Aravind Balaji - 4302

Date   : 27.10.22

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding				✓	✓
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair					✓

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

............................nil...

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Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : V.GUNA - II mech (112781140027)

Date : 27/10/22

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course			✓		
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair					✓

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.... Live Industrial Practice required.
....
....
....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : AKASH. D

Date : 27 / 10 / 2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair			✓		

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

............................Good...

....

....

....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : PRITHIVIRAJ. B

Date : 27 / 10 / 2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class			✓		
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair					✓

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.... Please Provide Different ....
...more Courses..
....
....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : Sridhar. M / 112720101002

Date : 27/10/2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding					✓
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students			✓		
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:

............................Good..

....

....

....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : Shamila . T (1127d011031001)

Date : 27/10/2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.............................Nil...
....
....
....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : *Lebena. M*

Date : 27 - 10 - 2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✔	
2	The instructor was organized, well prepared, and used class time efficiently				✔	
3	The instructor presented course material in a clear manner that facilitated understanding					✔
4	This class has increased my interest in this field of study				✔	
5	The readings were appropriate to the goals of the course					✔
6	I have put a great deal of effort into advancing my learning in this course				✔	
7	I would highly recommend this course to other students				✔	
8	The grading practices were fair					✔

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

....

....

....

....

Value added Course Feedback Form

MAE2201-THERMAL AND STRUCTURAL ANALYSIS BY ANSYS WORKBENCH

Name of the Student : S. Sivaraman

Date : 27 - 10 - 2022

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class					✓
2	The instructor was organized, well prepared, and used class time efficiently					✓
3	The instructor presented course material in a clear manner that facilitated understanding			✓		
4	This class has increased my interest in this field of study					✓
5	The readings were appropriate to the goals of the course				✓	
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair			✓		

Grading level

Excellent-5

Very good-4

Good- 3

Fair-2

Satisfactory-1

Any other suggestions:

....

....

....

....

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21/10/2021

To

The Principal

Respected Sir

Sub: Permission to conduct Value Added Course - Reg.

The Department of Management Studies offers a value-added course during the Academic Year 2021-2022 ODD Semester. In this respect, kindly provide permission to conduct value-added courses in accordance with the schedule given below.

Name of the course with code	Date	Duration in Hours	Availability in Curriculum
MB212203 – TOTAL QUALITY MANAGEMENT	17/11/2021 – 17/02/2022	36 Hrs	No

Thanking you

Permitted

Head of the Department
Department of Management Studies

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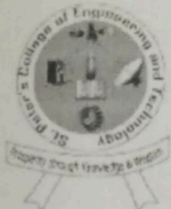Accredited by NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

DEPARTMENT OF MANAGEMENT STUDIES
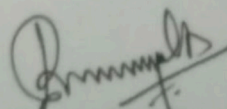
Circular

01/11/2021
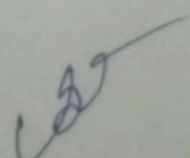
Ref No: SPCET/DOMS/2021-2022/ODD/VAC/MB212203

The Department of Management Studies is conducting Value Added Course from 17.11.2021 to 17.02.2022 for MBA students titled "MB212203- TOTAL QUALITY MANAGEMENT". The total duration of the course is 36 hours. The students are asked to register for the course.

Venue: R.No 217, Block III, SPCET

Course Coordinator   HOD

Copy to:

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MB212203 – TOTAL QUALITY MANAGEMENT
VALUE ADDED SCHEDULE

DATE	UNIT	HOURS	TITLE OF THE COURSE	RESOURCE PERSON
17/11/21 18/11/21 19/11/21 23/11/21 24/11/21	I	5 Hrs	Quality – vision, mission and policy statements. Customer Focus, Dimensions of product and service quality. Cost of quality.	Ms. C.EVANGELINE
25/11/21 26/11/21 25/11/21 26/11/21 30/11/21 1/12/21	II	6 Hrs	Overview of the contributions of Deming, Juran Crosby, Concepts of Quality circle, Japanese 5S principles and 8D methodology.	DR.R MURALI
02/12/21 03/12/21 06/12/21 07/12/21 08/12/21 09/12/21 14/12/21	III	7 Hrs	Introduction to IS/ISO 9004:2000 – quality management systems – guidelines for performance improvements. Quality Audits. TQM culture, Leadership – quality council, employee involvement, motivation, empowerment, recognition and rewar	Ms. C.EVANGELINE
15/12/21 16/12/21 17/12/21 21/12/21 22/12/21 23/12/21 24/12/21	IV	7 Hrs	Quality functions development (QFD) (FMEA) –failure rate, FMEA stages, design, process and documentation. Seven Tools.Bench marking and POKA YOKE.	Ms. C.EVANGELINE
03/01/22 05/01/22 06/01/22 11/01/22 12/01/22 13/01/22 09/02/22 10/02/22 11/02/22 15/02/22	V	10 Hrs	Case study & Activities	DR.R MURALI
17/02/22		1 hr	Assessment test	

COURSE COORDINATOR   **HOD**

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MB212203 – TOTAL QUALITY MANAGEMENT

Resource Person Details

Dr R.MURALI
Associate Professor
St. Peter's college of Engineering and Technology, Avadi
Mobile no – 9884150815
Email id – drmurali@spcet.ac.in

DR.R.MURALI working as Associate Professor in Department of Management Studies at St. Peter's college of Engineering and Technology has completed his UG BA, PG MBA and Doctorate in Management. He has more than 15yrs of teaching experience.

Ms.C.EVANGELINE
Assistant Professor
Department of Management studies
St. Peter's college of Engineering and Technology, Avadi
Mobile no – 9840840446
Email id   - evangeline.c@spcet.ac.in

Ms.C.Evangeline working as Assistant Professor in Department of Management Studies at St. Peter's college of Engineering and Technology has completed his UG B.SC and PG MBA with specialization Hr and Marketing. She has more than 10yrs of teaching experience.
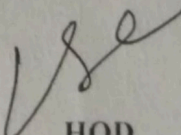
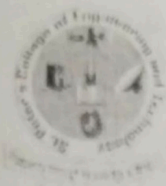HOD - MBA

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MB212203 – TOTAL QUALITY MANAGEMENT
STUDENT ENROLLMENT LIST

S. No.	Name of the Student	Register Number	Signature
1	112720631002	AJAY KANNA P	
2	112720631003	ALAGESAN N	
3	112720631007	BHARATH MURUGAN T R	
4	112720631008	DEEPAK RAJ S	
5	112720631010	DHAKSHINAMOORTHY K	
6	112720631011	DIWAKAR BABU M	
7	112720631012	GOPI M	
8	112720631013	HARIPRAKASH S	
9	112720631014	HARI PRASATH R	
10	112720631015	HARSHAVARDHAN C	
11	112720631017	JAGAN P	
12	112720631018	JANAKIRAM V	
13	112720631019	JAYARAMAN S	
14	112720631022	JOVIN SWIZER J JUSTUS	
15	112720631023	KEVIN JOHN WESLEY F	
16	112720631026	MAHESHBABU T S	
17	112720631028	MERCY M	
18	112720631029	MOHAN RAJ S	
19	112720631030	NANDHINI D	
20	112720631031	NARMADHA P	
21	112720631032	NASREEN FATHIMA A	
22	112720631033	NAVEEN G	
23	112720631034	NETHRA S	
24	112720631036	PREETHI E	
25	112720631037	PRIYANKA D	
26	112720631039	RUBESH J	
27	112720631040	SANGEETHA R	
28	112720631041	SANJAY KUMAR P	
29	112720631042	SANTHOSH P	
30	112720631043	SNEHA PRIYA S	
31	112720631044	SUDHARSAN R	
32	112720631045	SUSHINDARAN P	
33	112720631046	VEDAVALLI S	

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MB212203 – TOTAL QUALITY MANAGEMENT
STUDENT ENROLLMENT LIST

S.NO	REG NO	NAME	SIGNATURE
69	112721631034	KEERTHIKA.K	
70	112721631035	KIRAN RAJ.P	
71	112721631036	LAVANYA K	
72	112721631037	LIBIN MB	
73	112721631038	MADHUSUDHANAN A	
74	112721631039	MAHALAKSHMI.V	
75	112721631040	MALAVIKA S	
76	112721631041	MELVIN.S	
77	112721631042	MOHAN	
78	112721631044	NAVEEN.S	
79	112721631045	NAZREEN FATHIMA .S. H.	
80	112721631046	NUSRATH MUBEEN	
81	112721631047	PADMA PRIYA. E	
82	112721631048	PAUL PRASANNA KUMAR. KM	
83	112721631049	PRAVEEN.M	
84	112721631050	PREMNATH S	
85	112721631051	RAMESH KUMAR. S	
86	112721631052	SALMAN AFROOZ M A	
87	112721631053	SAM JEBA KUMAR.S	
88	112721631054	SARATH. P	
89	112721631055	SHAIK NASEER HUSSAIN	
90	112721631056	SHARON EVANGELIN H	
91	112721631057	SHOBANA G	
92	112721631058	SREERAJ P P	
93	112721631059	SUNDAR.S	
94	112721631060	SURYA R	
95	112721631061	THAMIZH ROJA.B	
96	112721631062	THATCHINAMOORTHY A	
97	112721631063	VIGNESHWARAN R	
98	112721631065	VINOTHINI R	
99	112721631066	VISHNU R	
100	112721631067	YUVASHREE	

COURSE COORDINATOR   **HOD**

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MB222304 EVENT MANAGEMENT

OBJECTIVE

This course is designed to provide an introduction to the principles of event management. The course aims to impart knowledge on the various events and how these events can be organized successfully.

UNIT 1   EVENT CONTEXT   **10Hrs**

History & Evolution – Types of events – MICE – Types of Meeting, Trade Shows, Conventions, Exhibitions- Structure of event industry – Event Management as a profession

UNT 2   EVENT PLANNING & ORGANIZING   **11 Hrs**

Conceptualizing the event – Host, sponsor, Media, Guest, Participants , Spectators – Crew – Design of concept – Theme and content development – Visualization – Event objectives – Initial planning – Organizing events in Department and college

UNIT 3CASE STUDY AND ACTIVITY   **10 Hrs**

Role of Strategic Marketing Planning - Pricing – Marketing Communication Methods & budget – Elements of marketing communication – Managing Marketing Communication – Role of Internet – Sponsorship – Event sponsorship – Strategy – Managing Sponsorships – Measuring & Evaluating sponsorship.

OUTCOME

Enhance professional skills in event management and to understand about event marketing, planning and strategies

1. Learning about structure and code of ethics of events
2. Exploring and getting to know about event planning and regulations
3. Understand about event marketing, planning and strategies
4. Enhance professional skills in event management
5. Analyse the safety measure of event management
6. Creating Event Management team in the Department to organize various events at college level.
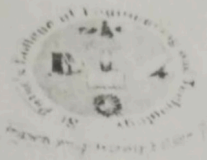
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AND TECHNOLOGY**

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DEPARTMENT OF MANAGEMENT STUDIES

Organizes

Value added Course

on

EVENT MANAGEMENT

DATE: 15/10/2022 to 20/01/2023

Resource Persons

DR. C.EVANGELINE, Associate Professor

Dr. G. SAMUEL ARUL ASIR, Assistant Professor
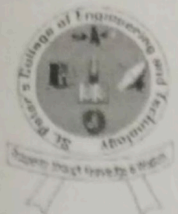
Dr. A.K. Subramani

HOD

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Value added Course Schedule

MB222304 EVENT MANAGEMENT

| Date	Unit	Hours	Title of the Course	Resource Person
15/10/2022 15/10/2022 30/10/2022 30/10/2022 04/11/2022 04/11/2022 18/11/2022 18/11/2022 19/11/2022 19/11/2022	I	10Hrs	**EVENT CONTEXT** History & Evolution – Types of events – MICE – Types of Meeting, Trade Shows, Conventions, Exhibitions- Structure of event industry – Event Management as a profession	Dr.G.Samuel Arul Asir
25/11/2022 25/11/2022 26/11/2022 26/11/2022 02/12/2022 02/12/2022 03/12/2022 03/12/2022 16/12/2022 16/12/2022 17/12/2022	II	11 Hrs	**EVENT PLANNING & ORGANIZING** Conceptualizing the event – Host, sponsor, Media, Guest, Participants , Spectators – Crew – Design of concept – Theme and content development – Visualization – Event objectives – Initial planning – Organizing events at college and department level	DR.C.EVANGELINE
17/12/2022 17/12/2022 23/12/2022 23/12/2022 06/01/2023 06/01/2023 07/01/2023 07/01/2023 13/01/2023 13/01/2023	III	10 Hrs	**CASE STUDY AND ACTIVITY**	DR.C.EVANGELINE
25/01/2023		1 Hr	**Assessment Test**	

HOD

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MB222304 – EVENT MANAGEMENT

Resource Person Details

DR.C.EVANGELINE
Associate Professor
Department of Management studies
St. Peter's college of Engineering and Technology, Avadi
Mobile no – 9840840446
Email id   - evangeline.c@spcet.ac.in

Dr.C.Evangeline working as Associate Professor in Department of Management Studies at St. Peter's college of Engineering and Technology has completed his UG B.SC and PG MBA with specialization Hr and Marketing. She has more than 13yrs of teaching experience.

Dr.G.Samuel Arul Asir
Assistant Professor
Department of Business Administration
Chennai National College of Arts and Science
Mobile no – 9840357128
Email id   - samuelarul@gmail.com

Dr.G.Samuel Arul Asir working as Assistant Professor and Head in Department of Business Administration in Chennai National college of Arts and Science. He has more than 15yrs of teaching experience.
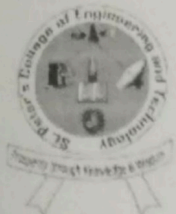
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DEPARTMENT OF MANAGEMENT STUDIES

Value Added Course Report 2022- 2023

Ref No: SPCET/DOMS/2022-23/ODD/VAC/MB222304

Course Code and Name	:	MB222304 EVENT MANAGEMENT
Course Duration	:	32Hrs
Year Offered	:	MBA I year Students 2022– 2023
Course Coordinator	:	DR. C EVANGELINE, Associate Professor
Course type	:	Self – Framed course
Curriculum Relevance	:	Not Available in Curriculum
Number of Students Enrolled	:	88
Number of Students Appeared	:	88
Number of Students Passed	:	88
Date	:	15/10/2022 – 20/01/2023

COURSE OUTCOME

Students in the course obtain the following outcomes.

1. Learning about structure and code of ethics of events
2. Exploring and getting to know about event planning and regulations
3. Understand about event marketing, planning and strategies
4. Enhance professional skills in event management
5. Analyze the safety measure of event management
6. Event Management team was formed and they organized various events in college Pongal day celebration, Independence Day and various club activities of MBA Department

ASSESSTMENT MODE

Scheme of Exam : MCQ Type

Date of Exam : 25/01/2023

COURSE OUTCOME ATTAINMENT

Course is successfully completed with Attainment level 1
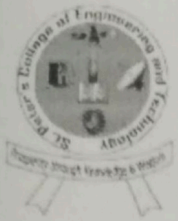
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LIST OF FEEDBACK QUESTIONS

1. The instructor was well prepared for class
2. The instructor was organized, well prepared, and used class time efficiently
3. The instructor presented course material in a clear manner that facilitated understanding
4. This class has increased my interest in this field of study
5. The readings were appropriate to the goals of the course
6. I have put a great deal of effort into advancing my learning in this course
7. I would highly recommend this course to other students
8. The grading practices were fair

COURSE FEEDBACK

The feedback was obtained from the participants after end of the course and the detailed analysis
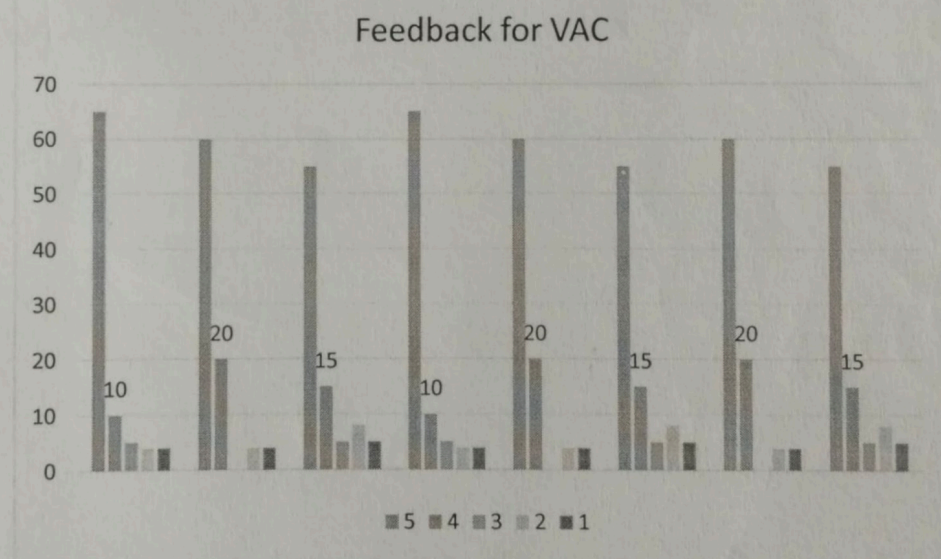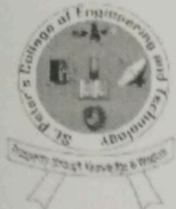
Feedback for VAC

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MB222304 – EVENT MANAGEMENT
Student Enrolment List

S. No.	Name of the Student	Register Number
1	112722631001	AGUSTIN.B
2	112722631002	AJITH KUMAR J
3	112722631003	ALLEN FRANK. A
4	112722631004	ANGELIN DEEPTHI.S
5	112722631005	ANGELIN G
6	112722631006	ANUSHREE .C.M
7	112722631007	AARON ABISHEK.V
8	112722631008	ARTHI S
9	112722631009	ARUN K
10	112722631010	BARATH.A
11	112722631011	BHUVANESHWARI L
12	112722631012	BLESSY ANBU MALAR R
13	112722631013	DEENAN R
14	112722631014	DEEPAK.M
15	112722631015	DHIVYADHARSHINI R
16	112722631016	DIVYA V
17	112722631017	ESTHER.N
18	112722631019	GEETHA.B
19	112722631020	GOKULA KUMARAN.K
20	112722631021	HARI PRIYA. S
21	112722631022	HARISH G
22	112722631023	HARISH MARAN M
23	112722631024	HARRISHKUMAR.A
24	112722631025	HARSHAVARDHAN S
25	112722631026	HEMANTH KUMAR R
26	112722631027	HIDHAYATHULLAH R
27	112722631028	HYMN.F
28	112722631029	INDHUMATHI .K
29	112722631030	JAGADESHWARAN M
30	112722631031	JANAKIRAMAN.R
31	112722631032	JANANI.A
32	112722631033	JANSIRANI S
33	112722631034	JAYASHREE .V
34	112722631035	JEROME. P
35	112722631036	KARTHIKEYAN M
36	112722631037	KATHIRSELVAN B
37	112722631038	KAVIDHAIPITHAN R
38	112722631039	KAVIYA M.R
39	112722631040	KEERTHANA.P
40	112722631041	LAKSHMI PRIYA.B
41	112722631042	LALITHA.B
42	112722631043	LAVANYA. A. R
43	112722631044	LAVANYA. S
44	112722631045	LAVANYA V

MB222304 – EVENT MANAGEMENT
Student Enrolment List

S. No.	Name of the Student	Register Number
45	112722631046	LEKHA SHARON.M
46	112722631047	LOGESH H
47	112722631048	LOGESH KUMAR.R
48	112722631049	MAGESH. S
49	112722631050	MAHALAKSHMI. S
50	112722631051	MALARVIZHI M
51	112722631052	MARCIANO JUDE GEORGE
52	112722631053	MONICA LOURDU MARY .S
53	112722631055	NAGAMMAL.M
54	112722631056	NANDHINI P
55	112722631057	NANDHINI. R
56	112722631058	NELSON RAJ R
57	112722631059	OVIYA P
58	112722631060	PAVITHRA E
59	112722631061	PAVITHRA.K
60	112722631062	POOJA K
61	112722631063	POOJA.S
62	112722631064	PRASAANTH R
63	112722631065	PRASANTH.M
64	112722631066	PRAVEEN. V
65	112722631067	PRAVEENKUMAR .S
66	112722631068	RAMYA T
67	112722631069	RANJINI.R
68	112722631070	RATHIRUBA S
69	112722631071	SAIBUL ISLAM.M
70	112722631072	SATHISH K R
71	112722631073	SATHISH KANNAN.R
72	112722631074	SATHISH . MURALI
73	112722631075	SAVARI JERO.A
74	112722631076	SHAKTHIVEL S K
75	112722631077	SHALINI. S
76	112722631078	SINDHIYA KATHRINE. B
77	112722631079	SIVARAJ. S
78	112722631080	SIVA SHANKAR.E
79	112722631081	SNEGA.P
80	112722631082	SUJITHA B
81	112722631083	SWETHA.K
82	112722631084	VARALAKSHMI.K
83	112722631085	VARUN.K.S
84	112722631086	VASUDEVAN.C
85	112722631087	VENKATESAN. S
86	112722631088	VINISHA N
87	112722631089	VINOTH V
88	112722631090	YUVARAJ V
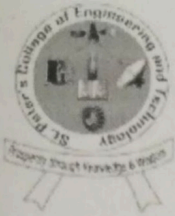
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MB222304– EVENT MANAGEMENT

Final Exam Questionnaire

Student Name : _____

Register No　: _____

Date　　:_____

Answer all the questions (circle the right answers)　　　　25x1=25
Time – 60 Mins

1. 1) Eventstaffwhoworkfornopayarecalled:

    (a) Casualstaff

    (b) Volunteerstaff

    (c) Part-timestaff

    (d) Eventstaff

2. Ensuring that local community stakeholders are supportive of the event isimportantbecause:

    (a) Ithelpsthesmoothrunningof theevent

    (b) Itisalegalrequirement

    (c) Ithelpstoattractlocalparticipants

    (d) Itdiscouragesparticipantsfromoutsideofthecommunity

3. ItisadvisablethattheEventDirector:

    (a) Issolelyresponsibleformakingimportantdecisionsabouttheevent

    (b) Consults with stakeholders before making important decisions about theevent

    (c) Leavesimportdecisionsabouttheeventtostakeholders

    (d) Formsacommitteetomakedecisionsabouttheevent

4. Whichofthefollowingisnotafunctionoftheeventorganizingcommittee?

    (a) Provideadvicetotheeventdirector

    (b) Takeashareofthetasksinvolvedinorganizingof theevent

    (c) Developtheeventmanagementplan

    (d) Shareintheprocessformakingimportantdecisionsabouttheevent

5. Whichofthefollowingshouldbedevelopedfirst:

    (a) Theeventsmarketingstrategy

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(b) Sponsorshipproposalsfortheevent

(c) Eventplan

(d) Aworkbreakdownstructure

6. Whichofthefollowingisbestindealingwiththemediatopublicizetheevent

   (a) Onlytheeventdirectorshoulddealwiththemedia

   (b) Anyoneontheorganizingcommitteecandealwiththemedia

   (c) Eventsponsorsshoulddealwiththemedia

   (d) Theeventteamshouldhaveamedialiaisonofficerappointed

7. Whichof thefollowingisnotpreventablethroughgoodcontingencyplanning?

   (a) A delay in the event program due to a late arrival of a dignitary to presentawards

   (b) A delay in the event program due to an injury to a competitor requiringaccesstothe eventarenabyambulance staff

   (c) A delay in the event program due to a late arrival of a judge, referee orotherofficial

   (d) Adelayintheeventprogramduetoabreakdowninthesoundequipment

8. Which of the following is the most correct answer to the question "Why doeventsponsorsprovidefinancialand in-kindsupportforanevent":

   (a) Itistheirlegalobligationtodoso

   (b) Theyareafraidthatothercompanieswilldosoinstead

   (c) Theycanwriteoffthecostagainstthe taxsystem

   (d) They anticipate receiving exposure of their brand in a particular marketsegment

9. Which of the following is the most disastrous and makes it virtually impossibleto runanevent:

   (a) Eventdirectorresigns

   (b) Majorsponsorpullsout

   (c) Thecostoftheeventgoesoverbudget

   (d) Novenuefortheeventavailable

10. An event director should monitor the progress of the planning and organization ofeventtasks.

    (a) True

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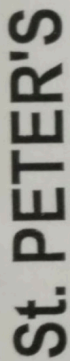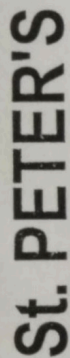## COLLEGE OF ENGINEERING &TECHNOLOGY:: CHENNAI
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(b) False

11. When a company invites its business contacts for an anniversary, this is referred to as:

(a) Marketing for events.
(b) Marketing for relationships.
(c) Marketing by events.
(d) Marketing by business-to-business.

12. Redhead Days is a festival that has been organized for more than ten years in the centre of Breda in the first weekend of September. During this weekend, redheads from all over the world come together to enjoy exhibitions, lectures and workshops, fashion shows, photo shoots, beauty and fashion advice, and music. Is the following statement true or false? Redhead Days is a good example of event marketing, especially of the 'marketing for events' approach.

(a) True.
(b) False.

13. Which of the following statements about strategies for using events is correct?
(a) Ultimately, the use of events is about the economic objective of an organization.
(b) A strategically used event can only be organized on the basis of one strategic choice (objective).
(c) To achieve the goal, the external branding strategy is the most suitable.
(d) The relationship marketing strategy focuses on influencing knowledge, attitude and behaviour.

14. When it comes to event marketing, it is not always necessary to organize events yourself. There are two other possibilities, i.e.:

(a) Brand venues and relationship events.
(b) Connecting to an existing event and facilitating events.
(c) Sponsored events and facilitating events.
(d) Relationship events and side events.

15. Are the following statements true or false?

(a) The event takes place in the direct-exposure phase.
(b) To optimize the visitor experience, the event is often supported by communication resources and channels in the pre-, direct- and post-exposure phases.

(a) A   Statement I is true, statement II is false.
(b) B   Statement I is false, statement II is true.
(c) C   Both statements are true.
(d) D   Both statements are false.

16. FloraHolland celebrated its 100th anniversary in 2017. The big anniversary party was celebrated 'at home', at the company's own flower auction in Rijnsburg. During the first evening, more than five thousand employees and their partners/spouses enjoyed an
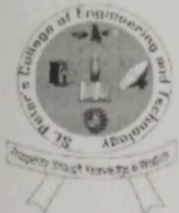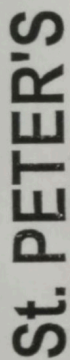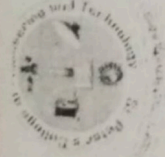
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unforgettable evening. Statement: To which type of event marketing does this event belong?

    (a) Brand event.
    (b) Relationship event.
    (c) Internal branding event.
    (d) Sponsored event

17. In the book, the advantages and disadvantages of events and event marketing are discussed. Statement: Which of the following statements is false?

    (a) Events allow direct anticipation of the target group's experience thanks to interaction and direct physical contact.
    (b) With events, various target groups can be approached with a very specific message.
    (c) Events can be organized easily.
    (d) An event gives you only one opportunity to show what was planned in advance.

18. Put in the right order: 1 = message, 2 = objective, 3 = target group, 4 = instruments and/or resources and media, 5 = follow-up.

    (a) 2, 1, 3, 5, 4.
    (b) 3, 1, 2, 4, 5.
    (c) 2, 1, 3, 4, 5.
    (d) 2, 3, 1, 4, 5.

19. Whether or not an event is used, usually depends on several factors. Statement: Which of the following factors does NOT determine whether an event is used?

    (a) Level of support in the organization.
    (b) Costs.
    (c) Objective.
    (d) Project organization.

20. Events can be classified on the basis of their
    (a) Size, Type and Context
    (b) Location
    (c) Budget
    (d) Chief Guest

21. Event management is considered one of the strategic
    (a) Entertainment sector

    (b) Message deliver

    (c) Marketing and communication tool

    (d) Fun factor

22. What are the 7 key elements of event management?
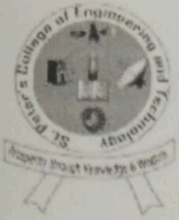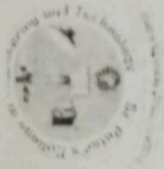
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(a) Event infrastructure, target audience, clients, event organizers, venue, media

(b) Guest list, target audience, clients, event organizers, venue, media

(c) Event infrastructure, money, clients, event organizers, venue,

(d) Event infrastructure, target audience,

23. Which among the following is not an event planning tool?

   (a) Maps
   (b) Creative brief
   (c) Models
   (d) Run sheet

24. Mishaps in an event

   (a) Event Planning
   (b) Event Insurance
   (c) Liasion Agreement
   (d) Traffic management

25. Which of these is not an event management company?

   (a)   Avian We
   (b)   Wizcraft
   (c)   360 degrees
   (d)   WOW events
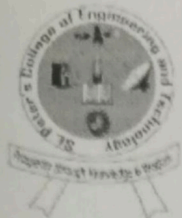
Value added Course
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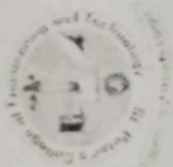| 1	C	11	C	21	B
2	D	12	B	22	A
3	A	13	D	23	D
4	A	14	A	24	A
5	A	15	B	25	C
6	B	16	D		
7	C	17	C		
8	B	18	D		
9	D	19	A		
10	A	20	C		

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1	112722631001	AGUSTIN.B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	112722631002	AJITH KUMAR J	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	112722631003	ALLEN FRANK. A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	112722631004	ANGELIN DEEPTHI.S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	112722631005	ANGELIN G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	112722631006	ANUSHREE .C.M	✓	✓	✓	a	✓	a	✓	✓	✓	✓	✓
7	112722631007	AARON ABISHEK.V	✓	✓	✓	✓	✓	✓	a	✓	✓	✓	✓
8	112722631008	ARTHI S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	112722631009	ARUN K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	112722631010	BARATH.A	✓	a	✓	✓	✓	✓	✓	✓	✓	a	✓
11	112722631011	BHUVANESHWARI L	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	112722631012	BLESSY ANBU MALAR R	✓	✓	✓	✓	✓	✓	✓	✓	✓	a	✓
13	112722631013	DEENAN R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	112722631014	DEEPAK.M	✓	✓	✓	✓	✓	a	✓	✓	✓	✓	✓
15	112722631015	DHIVYADHARSHINI R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16	112722631016	DIVYA V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	112722631017	ESTHER.N	✓	✓	✓	✓	✓	✓	✓	✓	a	✓	✓
18	112722631019	GEETHA.B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19	112722631020	GOKULA KUMARAN.K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20	112722631021	HARI PRIYA.S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	112722631022	HARISH G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
22	112722631023	HARISH MARAN M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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23	112722631024	HARRISHKUMAR.A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
24	112722631025	HARSHAVARDHAN S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25	112722631026	HEMANTH KUMAR R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
26	112722631027	HIDHAYATHULLAH R	✓	✓	✓	✓	a	✓	✓	✓	✓	✓	✓
27	112722631028	HYMN.F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
28	112722631029	INDHUMATHI .K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
29	112722631030	JAGADESHWARAN M	✓	✓	✓	✓	✓	a	✓	✓	✓	✓	✓
30	112722631031	JANAKIRAMAN.R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
31	112722631032	JANANI.A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	a
32	112722631033	JANSIRANI S	✓	✓	✓	a	✓	✓	✓	a	✓	✓	✓
33	112722631034	JAYASHREE .V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
34	112722631035	JEROME. P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
35	112722631036	KARTHIKEYAN M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
36	112722631037	KATHIRSELVAN B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
37	112722631038	KAVIDHAIPITHAN R	✓	✓	a	✓	✓	✓	✓	✓	a	✓	✓
38	112722631039	KAVIYA M.R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
39	112722631040	KEERTHANA.P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40	112722631041	LAKSHMI PRIYA.B	✓	✓	✓	✓	✓	a	✓	✓	✓	✓	✓
41	112722631042	LALITHA.B	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
42	112722631043	LAVANYA. A. R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
43	112722631044	LAVANYA. S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
44	112722631045	LAVANYA K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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45	112722631046	LEKHA SHARON.M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
46	112722631047	LOGESH H	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
47	112722631048	LOGESH KUMAR.R	✓	✓	✓	✓	✓	a	✓	✓	✓	✓
48	112722631049	MAGESH.S	✓	✓	✓	✓	✓	✓	a	✓	✓	✓
49	112722631050	MAHALAKSHMI.S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
50	112722631051	MALARVIZHI M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
51	112722631052	MARCIANO JUDE GEORGE	✓	✓	✓	✓	a	✓	✓	✓	✓	✓
52	112722631053	MONICA LOURDU MARY .S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
53	112722631055	NAGAMMAL.M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
54	112722631056	NANDHINI P	a	✓	✓	✓	✓	✓	✓	✓	✓	✓
55	112722631057	NANDHINI. R	✓	✓	✓	✓	✓	a	✓	✓	✓	✓
56	112722631058	NELSON RAJ R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
57	112722631059	OVIYA P	✓	✓	✓	a	✓	✓	✓	✓	✓	✓
58	112722631060	PAVITHRA E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
59	112722631061	PAVITHRA.K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
60	112722631062	POOJA K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
61	112722631063	POOJA.S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
62	112722631064	PRASAANTH R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
63	112722631065	PRASANTH.M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
67	112722631066	PRAVEEN.V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
65	112722631067	PRAVEENKUMAR .S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
66	112722631068	RAMYA T	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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67	112722631069	RANJINI.R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
68	112722631070	RATHIRUBA S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
69	112722631071	SAIBUL ISLAM.M	✓	✓	a	✓	✓	✓	✓	✓	✓	✓
70	112722631072	SATHISH K R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
71	112722631073	SATHISH KANNAN.R	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
72	112722631074	SATHISH MURALI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
73	112722631075	SAVARI JERO.A	✓	✓	✓	a	✓	✓	✓	a	✓	✓
74	112722631076	SHAKTHIVEL S K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
75	112722631077	SHALINI. S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
76	112722631078	SINDHIYA KATHRINE. B	a	✓	✓	✓	✓	✓	✓	✓	✓	✓
77	112722631079	SIVARAJ. S	✓	✓	✓	✓	✓	✓	✓	✓	✓	a
78	112722631080	SIVA SHANKAR.E	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
79	112722631081	SNEGA.P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
80	112722631082	SUJITHA B	✓	✓	✓	✓	✓	a	✓	✓	✓	✓
81	112722631083	SWETHA.K	✓	✓	✓	✓	✓	✓	✓	✓	a	✓
82	112722631084	VARALAKSHMI.K	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
83	112722631085	VARUN.K.S	✓	✓	✓	a	✓	✓	✓	✓	✓	✓
84	112722631086	VASUDEVAN.C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
85	112722631087	VENKATESAN. S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
86	112722631088	VINISHA N	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
87	112722631089	VINOTH V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
88	112722631090	YUVARAJ V	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		TOTAL PRESENT	85	87	86	84	85	83	85	86	85	86
		TOTAL ABSENT	3	1	2	4	3	5	3	2	3	2
		TOTAL STRENGTH	88	88	88	88	88	88	88	88	88	88
		SIGNATURE										

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S.NO	Register No	Name of the Student	19/12/22	22/12/22	6/1/23	7/1/23	13/1/23	25/1/23
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2	112722631002	AJITH KUMAR J	✓	✓	✓	✓	✓	✓
3	112722631003	ALLEN FRANK. A	✓	✓	✓	✓	✓	✓
4	112722631004	ANGELIN DEEPTHI.S	✓	✓	✓	✓	✓	✓
5	112722631005	ANGELIN G	✓	✓	✓	✓	✓	✓
6	112722631006	ANUSHREE .C.M	✓	✓	✓	a	✓	✓
7	112722631007	AARON ABISHEK.V	✓	✓	✓	✓	✓	✓
8	112722631008	ARTHI S	✓	✓	✓	✓	✓	✓
9	112722631009	ARUN K	✓	✓	✓	✓	✓	✓
10	112722631010	BARATH.A	✓	✓	✓	✓	✓	✓
11	112722631011	BHUVANESHWARI L.	✓	✓	✓	✓	✓	✓
12	112722631012	BLESSY ANBU MALAR R	✓	✓	✓	✓	✓	✓
13	112722631013	DEENAN R	✓	✓	✓	✓	✓	✓
14	112722631014	DEEPAK.M	✓	✓	✓	✓	✓	✓
15	112722631015	DHIVYADHARSHINI R	✓	✓	✓	✓	✓	✓
16	112722631016	DIVYA V	✓	a	✓	✓	✓	✓
17	112722631017	ESTHER.N	✓	✓	✓	✓	✓	✓
18	112722631019	GEETHA.B	✓	✓	✓	✓	✓	✓
19	112722631020	GOKULA KUMARAN.K	✓	✓	✓	✓	✓	✓
20	112722631021	HARI PRIYA. S	✓	✓	✓	✓	✓	✓
21	112722631022	HARISH G	✓	✓	✓	✓	✓	✓
22	112722631023	HARISH MARAN M	✓	✓	✓	✓	✓	✓
23	112722631024	HARRISHKUMAR.A	✓	✓	✓	✓	✓	✓
24	112722631025	HARSHAVARDHAN S	✓	✓	✓	✓	✓	✓

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MB222304 EVENT MANAGEMENT ATTENDANCE

S.NO	Register No	Name of the Student						
25	112722631026	HEMANTH KUMAR R	✓	✓	✓	✓	✓	✓
26	112722631027	HIDHAYATHULLAH R	✓	✓	✓	✓	✓	✓
27	112722631028	HYMN.F	a	✓	✓	✓	✓	✓
28	112722631029	INDHUMATHI .K	✓	✓	✓	✓	✓	✓
29	112722631030	JAGADESHWARAN M	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓
30	112722631031	JANAKIRAMAN.R	✓	✓	✓	✓	✓✓	✓
31	112722631032	JANANI.A	✓✓	✓✓	✓✓	✓	✓	✓
32	112722631033	JANSIRANI S	✓	✓✓	✓	✓	a	✓
33	112722631034	JAYASHREE .V	✓	✓	✓	✓	✓	✓
34	112722631035	JEROME. P	✓✓	✓✓	✓✓	✓✓	✓	✓
35	112722631036	KARTHIKEYAN M	✓✓	✓	✓✓	✓	✓	✓
36	112722631037	KATHIRSELVAN B	✓✓	✓✓	✓✓	✓✓	✓	✓
37	112722631038	KAVIDHAIPITHAN R	✓	✓	✓	✓	✓	✓
38	112722631039	KAVIYA M.R	✓	✓	✓✓	✓	✓	✓
39	112722631040	KEERTHANA.P	a	✓	✓✓	✓	✓✓	✓
40	112722631041	LAKSHMI PRIYA.B	✓✓	✓	✓	✓	✓✓	✓
41	112722631042	LALITHA.B	✓✓	✓	✓	✓	✓✓	✓
42	112722631043	LAVANYA. A. R	✓✓	✓	✓✓	✓	✓✓	✓
43	112722631044	LAVANYA. S	✓	✓	✓	✓	✓	✓
44	112722631045	LAVANYA K	✓	✓	✓✓	✓	✓✓	✓
45	112722631046	LEKHA SHARON.M	✓	✓	✓	✓	✓✓	✓
46	112722631047	LOGESH H	✓✓	✓	✓	✓	✓✓	✓
47	112722631048	LOGESH KUMAR.R	✓✓	✓	✓✓	✓✓	✓✓	✓
48	112722631049	MAGESH.S	✓	✓	✓✓	✓✓	✓	✓

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MB222304 EVENT MANAGEMENT ATTENDANCE

S.NO	Register No	Name of the Student	17/12/22	23/12/22	6/1/23	7/1/23	13/1/23	25/1/23
49	112722631050	MAHALAKSHMI. S	✓	✓	✓	✓	✓	✓
50	112722631051	MALARVIZHI M	✓	✓	✓	✓	✓	✓
51	112722631052	MARCIANO JUDE GEORGE	✓	✓	✓	✓	✓	✓
52	112722631053	MONICA LOURDU MARY .S	✓	✓	✓	✓	✓	✓
53	112722631055	NAGAMMAL.M	✓	✓	✓	✓	✓	✓
54	112722631056	NANDHINI P	✓	✓	✓	✓	✓	✓
55	112722631057	NANDHINI. R	✓	✓	✓	✓	✓	✓
56	112722631058	NELSON RAJ R	✓	✓	✓	✓	✓	✓
57	112722631059	OVIYA P	✓	✓	✓	✓	✓	✓
58	112722631060	PAVITHRA E	a	✓	✓	a	✓	✓
59	112722631061	PAVITHRA.K	✓	✓	✓	✓	✓	✓
60	112722631062	POOJA K	✓	✓	✓	✓	✓	✓
61	112722631063	POOJA.S	✓✓	✓	✓	a	✓	✓
62	112722631064	PRASAANTH R	✓✓	✓	✓	✓	✓	✓
63	112722631065	PRASANTH.M	✓	✓	✓	✓	✓	✓
67	112722631066	PRAVEEN. V	✓	✓	✓	✓	✓	✓
65	112722631067	PRAVEENKUMAR .S	✓	✓	✓	✓	✓	✓
66	112722631068	RAMYA T	✓	✓	✓	✓	✓	✓
67	112722631069	RANJINI.R	✓	✓	✓	✓	✓	✓
68	112722631070	RATHIRUBA S	✓	✓	✓	✓	✓	✓
69	112722631071	SAIBUL ISLAM.M	✓	✓	✓	✓	✓	✓
70	112722631072	SATHISH K R	✓	✓	✓	✓	✓	✓

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MB222304 EVENT MANAGEMENT ATTENDANCE

S.NO	Register No	Name of the Student	12/12/22	23/12/22	6/1/23	7/1/23	12/1/23	25/1/23
71	112722631073	SATHISH KANNAN.R	✓	✓	✓	✓	✓	✓
72	112722631074	SATHISH MURALI	✓	✓	✓	✓	✓	✓
73	112722631075	SAVARI JERO.A	✓	✓	✓	✓	✓	✓
74	112722631076	SHAKTHIVEL S K	✓	✓	a	✓	✓	✓
75	112722631077	SHALINI. S	✓	✓	✓	✓	✓	✓
76	112722631078	SINDHIYA KATHRINE. B	✓	✓	✓	✓	✓	✓
77	112722631079	SIVARAJ. S	✓	✓	✓	✓	✓	✓
78	112722631080	SIVA SHANKAR.E	✓	✓	✓	✓	✓	✓
79	112722631081	SNEGA.P	✓	✓	✓	✓	✓	✓
80	112722631082	SUJITHA B	✓	✓	✓	✓	✓	✓
81	112722631083	SWETHA.K	✓	a	✓	✓	✓	✓
82	112722631084	VARALAKSHMI.K	✓	✓	✓	✓	✓	✓
83	112722631085	VARUN.K.S	✓	✓	✓	✓	✓	✓
84	112722631086	VASUDEVAN.C	✓	✓	✓	✓	✓	✓
85	112722631087	VENKATESAN. S	✓	✓	✓	✓	✓	✓
86	112722631088	VINISHA N	✓	✓	✓	✓	✓	✓
87	112722631089	VINOTH V	✓	✓	✓	✓	✓	✓
88	112722631090	YUVARAJ V	✓	✓	✓	✓	✓	✓
		TOTAL PRESENT	85	86	87	85	88	88
		TOTAL ABSENT	3	2	1	3	1	1
		TOTAL STRENGTH	88	88	88	88	88	88
		SIGNATURE						

Course Coordinator

HOD

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Value added Course Mark Sheet
MB222304 EVENT MANAGEMENT

S. No.	Register Number	Name	MARKS
1	112722631001	AGUSTIN.B	78
2	112722631002	AJITH KUMAR J	78
3	112722631003	ALLEN FRANK. A	78
4	112722631004	ANGELIN DEEPTHI.S	86
5	112722631005	ANGELIN G	84
6	112722631006	ANUSHREE .C.M	78
7	112722631007	AARON ABISHEK.V	78
8	112722631008	ARTHI S	78
9	112722631009	ARUN K	82
10	112722631010	BARATH.A	76
11	112722631011	BHUVANESHWARI L	84
12	112722631012	BLESSY ANBU MALAR R	85
13	112722631013	DEENAN R	84
14	112722631014	DEEPAK.M	96
15	112722631015	DHIVYADHARSHINI R	86
16	112722631016	DIVYA V	78
17	112722631017	ESTHER.N	84
18	112722631019	GEETHA.B	90
19	112722631020	GOKULA KUMARAN.K	78
20	112722631021	HARI PRIYA. S	76
21	112722631022	HARISH G	82
22	112722631023	HARISH MARAN M	78
23	112722631024	HARRISHKUMAR.A	86
24	112722631025	HARSHAVARDHAN S	78
25	112722631026	HEMANTH KUMAR R	96
26	112722631027	HIDHAYATHULLAH R	88
27	112722631028	HYMN.F	84
28	112722631029	INDHUMATHI .K	86
29	112722631030	JAGADESHWARAN M	82
30	112722631031	JANAKIRAMAN.R	88
31	112722631032	JANANI.A	80
32	112722631033	JANSIRANI S	78
33	112722631034	JAYASHREE .V	92
34	112722631035	JEROME. P	96
35	112722631036	KARTHIKEYAN M	94
36	112722631037	KATHIRSELVAN B	88
37	112722631038	KAVIDHAIPITHAN R	80
38	112722631039	KAVIYA M.R	88
39	112722631040	KEERTHANA.P	92
40	112722631041	LAKSHMI PRIYA.B	88
41	112722631042	LALITHA.B	86
42	112722631043	LAVANYA. A. R	84
43	112722631044	LAVANYA. S	90
44	112722631045	LAVANYA V	82

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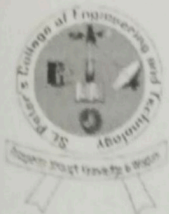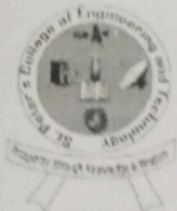### Accredited by NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

Value added Course Mark Sheet
MB222304 EVENT MANAGEMENT

S. No.	Register Number	Name	Marks
45	112722631046	LEKHA SHARON.M	76
46	112722631047	LOGESH H	86
47	112722631048	LOGESH KUMAR.R	84
48	112722631049	MAGESH. S	78
49	112722631050	MAHALAKSHMI. S	90
50	112722631051	MALARVIZHI M	76
51	112722631052	MARCIANO JUDE GEORGE	82
52	112722631053	MONICA LOURDU MARY .S	88
53	112722631055	NAGAMMAL.M	76
54	112722631056	NANDHINI P	84
55	112722631057	NANDHINI. R	94
56	112722631058	NELSON RAJ R	96
57	112722631059	OVIYA P	88
58	112722631060	PAVITHRA E	84
59	112722631061	PAVITHRA.K	84
60	112722631062	POOJA K	78
61	112722631063	POOJA.S	90
62	112722631064	PRASAANTH R	90
63	112722631065	PRASANTH.M	82
64	112722631066	PRAVEEN. V	78
65	112722631067	PRAVEENKUMAR .S	86
66	112722631068	RAMYA T	78
67	112722631069	RANJINI.R	96
68	112722631070	RATHIRUBA S	98
69	112722631071	SAIBUL ISLAM.M	84
70	112722631072	SATHISH K R	88
71	112722631073	SATHISH KANNAN.R	90
72	112722631074	SATHISH . MURALI	78
73	112722631075	SAVARI JERO.A	80
74	112722631076	SHAKTHIVEL S K	78
75	112722631077	SHALINI. S	92
76	112722631078	SINDHIYA KATHRINE. B	88
77	112722631079	SIVARAJ. S	94
78	112722631080	SIVA SHANKAR.E	76
79	112722631081	SNEGA.P	78
80	112722631082	SUJITHA B	88
81	112722631083	SWETHA.K	84
82	112722631084	VARALAKSHMI.K	88
83	112722631085	VARUN.K.S	90
84	112722631086	VASUDEVAN.C	76
85	112722631087	VENKATESAN. S	78
86	112722631088	VINISHA N	88
87	112722631089	VINOTH V	76
88	112722631090	YUVARAJ V	84

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No of Students getting more than 70%	88
% of Students getting more than 70%	100%

CO Attainment: Course is successfully completed with the Attainment Level 1

Rubrics:

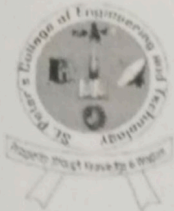| Assessment Level	CO's Percentage	Performance	Remarks
Level 1	90-100%	Excellent	All important info adequately delivered and shows proficient understanding of the subject matter
Level 2	80-90%	Very good	Most of the important info are delivered and shows adequate understanding of the subject matter
Level 3	70-80%	Good	Some of the important info are delivered and shows a basic understanding of the subject matter
Level 4	50-70%	Needs work	Some of the important info are delivered but doesn' show adequate understanding of the subject matter
Level 5	<50%	Poor	None of the important info are delivered and failed to show an understanding of the subject matter

HoD

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Value added Course Feedback Form

Name of the Student   : Angelin G
Course Title   : Event management
Date   : 25/11/2023

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized, well prepared, and used class time efficiently			✓		
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study			✓		
5	The readings were appropriate to the goals of the course			✓		
6	I have put a great deal of effort into advancing my learning in this course			✓		
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.............No suggestions..
....
....
....
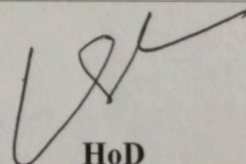
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Value added Course Feedback Form

Name of the Student : SUJITHA·B
Course Title : EVENT MANAGEMENT
Date : 25|1|23

S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class			✓		
2	The instructor was organized, well prepared, and used class time efficiently			✓		
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course			✓		
6	I have put a great deal of effort into advancing my learning in this course				✓	
7	I would highly recommend this course to other students					✓
8	The grading practices were fair				✓	

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
.... Well organised ....
....
....
....

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Value added Course Feedback Form

Name of the Student : HARISH G
Course Title : Event Management
Date : 25/01/2023

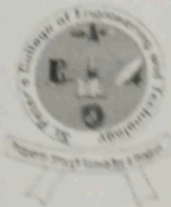| S.No	Questions	Grading Level				
		1	2	3	4	5
1	The instructor was well prepared for class				✓	
2	The instructor was organized, well prepared, and used class time efficiently				✓	
3	The instructor presented course material in a clear manner that facilitated understanding				✓	
4	This class has increased my interest in this field of study				✓	
5	The readings were appropriate to the goals of the course					✓
6	I have put a great deal of effort into advancing my learning in this course					✓
7	I would highly recommend this course to other students				✓	
8	The grading practices were fair					✓

Grading level
Excellent-5
Very good-4
Good- 3
Fair-2
Satisfactory-1

Any other suggestions:
......Organized well and makes to involve more.................................
....
....
....

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College Road, Avadi, Chennai - 600 054

DEPARTMENT OF MANAGEMENT STUDIES

This is to certify that Mr. / Ms._____ of _____year of MBA has co-ordinated the Event Management_____Activity of MBA Department from October 2022 - June 2023

Head of the Department

Principal

TOWN NEWS

SHRIRAM
General Insurance

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MB212203 – TOTAL QUALITY MANAGEMENT

Final Exam Questionnaire

Student Name: _____

Register No: _____

Date : _____

Answer all the questions (circle the right answers)   25x2=50
Time – 60 Mins

1. Which of these do NOT belong to the Crosby's Quality Vaccine's five sections?

a. Operations

b. Communication

c. Conformance

d. Policies

2. _____ refer to the customer needs that help in keeping a company in the market.

a. Excess Needs

b. Excitement Needs

c. Basic Needs

d. Performance Needs

3. _____ refers to the operational definition of goals.

a. Objectives

b. Action Plans

c. Target

d. Plans

4. Which of these is neither a physical nor an objective factor for performance appraisal?

a. Friendliness

b. Efficiency

c. Amount of work

d. Attendance

5. The Four R's of a Total Improvement was given by whom?

a. Deming

b. Jack L. Huffman

c. Taguchi

d. Crosby

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MB212203 – TOTAL QUALITY MANAGEMENT

6. Which of these is the primary idea behind the concept of multiple sourcing?

a. Lower costs

b. Better service

c. Higher costs

d. Better quality

7. Which of these does NOT amount to a tangible gain of the quality circle?

a. Better housekeeping

b. Attitudinal changes

c. Greater cost-effectiveness

d. Increased profitability

8. We also call specification limits to be a product's _____.

a. Median

b. Mode

c. Allowances

d. Tolerances

9. Which of these does NOT happen to be one of the new seven management tools?

a. Histogram

b. Matrix Diagram

c. Tree Diagram

d. Affinity Diagram

10. Which of these is the odd one out according to the data inputs needed to prepare an FMEA?

a. Reliability data

b. Product & process specifications

c. Quality engineer

d. Customer priority data

11. Which of these does NOT refer to an emotional-based method to increase innovation?

a. Lateral Thinking

b. TRIZ

c. Synectics

d. Brainstorming

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MB212203 – TOTAL QUALITY MANAGEMENT

Final Exam Questionnaire

96%

Student Name   :   PRIYANKA . D

Register No   :   112720631037

Date   :   17 – 02 – 22

Answer all the questions (circle the right answers)   25x2=50

Time – 60 Mins

1. Which of these do NOT belong to the Crosby's Quality Vaccine's five sections?

a. Operations

b. Communication

c. Conformance

d. Policies

2. _____ refer to the customer needs that help in keeping a company in the market.

a. Excess Needs

b. Excitement Needs

c. Basic Needs

d. Performance Needs

3. _____ refers to the operational definition of goals.

a. Objectives

b. Action Plans

c. Target

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d. Attendance

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a. Deming

b. Jack L. Huffman

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MB212203 – TOTAL QUALITY MANAGEMENT
ANSWER KEY

1	C	11	B	21	B
2	D	12	D	22	A
3	A	13	A	23	D
4	A	14	B	24	A
5	B	15	D	25	C
6	C	16	C		
7	B	17	D		
8	D	18	A		
9	A	19	C		
10	C	20	B		

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MB212203 – TOTAL QUALITY MANAGEMENT
Value added Course Mark Sheet

S. NO.	NAME OF THE STUDENT	REGISTER NUMBER	MARKS
1	112720631002	AJAY KANNA P	70
2	112720631003	ALAGESAN N	86
3	112720631007	BHARATH MURUGAN T R	84
4	112720631008	DEEPAK RAJ S	86
5	112720631010	DHAKSHINAMOORTHY K	84
6	112720631011	DIWAKAR BABU M	78
7	112720631012	GOPI M	70
8	112720631013	HARIPRAKASH S	86
9	112720631014	HARI PRASATH R	84
10	112720631015	HARSHAVARDHAN C	76
11	112720631017	JAGAN P	86
12	112720631018	JANAKIRAM V	84
13	112720631019	JAYARAMAN S	93
14	112720631022	JOVIN SWIZER J JUSTUS	96
15	112720631023	KEVIN JOHN WESLEY F	86
16	112720631026	MAHESHBABU T S	84
17	112720631028	MERCY M	78
18	112720631029	MOHAN RAJ S	86
19	112720631030	NANDHINI D	84
20	112720631031	NARMADHA P	78
21	112720631032	NASREEN FATHIMA A	81
22	112720631033	NAVEEN G	71
23	112720631034	NETHRA S	86
24	112720631036	PREETHI E	75
25	112720631037	PRIYANKA D	96
26	112720631039	RUBESH J	86
27	112720631040	SANGEETHA R	84
28	112720631041	SANJAY KUMAR P	78
29	112720631042	SANTHOSH P	81
30	112720631043	SNEHA PRIYA S	86
31	112720631044	SUDHARSAN R	84
32	112720631045	SUSHINDARAN P	78
33	112720631046	VEDAVALLI S	91

ST. PETER'S COLLEGE OF ENGINEERING & TECHNOLOGY, CHENNAI
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Value added Course Mark Sheet

S.NO	REG NO	NAME	MARKS
34	112720631047	VENKATESH M A	96
35	112720631049	VIGNESHWAR G	93
36	112720631048	VENUGOPAL	86
37	112721631001	AAHASH.S.D	84
38	112721631002	AARTHI M	78
39	112721631003	ABINASH. G	75
40	112721631004	ALEX WILSON ARULDOSS. G	86
41	112721631005	ANAND S	84
42	112721631007	ANITHA.B	78
43	112721631008	ANUSHA.M	76
44	112721631009	ARUNA KUMARI. T	76
45	112721631010	BHUVANESHWARI D	71
46	112721631011	BHUVANESHWARI M	74
47	112721631012	BRIGHT WILSEN S	75
48	112721631013	DEBORAH DEVAKUMARI. S	84
49	112721631014	DHANALAKSHMI.S	93
50	112721631015	DHAYALAN S	96
51	112721631016	DINESH J	87
52	112721631017	DIVYA.R	83
53	112721631018	EDWIN.S	84
54	112721631019	ENERST PAUL .P	78
55	112721631020	K.GOMATHI	84
56	112721631021	GOWTHAM C	78
57	112721631022	GOWTHAM.D	81
58	112721631023	HABEL HAMANTH. G	71
59	112721631024	HARIHARAN.R	86
61	112721631026	HARINI SRI . D	74
62	112721631027	HARIPRASATH.P	96
63	112721631028	HARITHA H	98
64	112721631029	IMMACULATE BERNERDH R	84
65	112721631030	INDHUMATHI B	91
66	112721631031	ISHWARYA	87
67	112721631032	KARTHIKA K	78
68	112721631033	KEERTHANA. S	79