



Indra Ganesan

COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(F) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 2

TEACHING-LEARNING AND EVALUATION

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

INDRA GANESAN COLLEGE OF ENGINEERING





Criteria2	Teaching-Learning and Evaluation	350
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KeyIndicator-2.3.Teaching-Learning Process (40)

2021-2022

**PARTICIPATIVE LEARNING
MECHANICAL ENGINEERING**

Activity	NumberofStudents Attended	Page No.
Value Added Course(VAC)	112	3
TOTAL STUDENTS ATTENDED	112	-



Criteria2

Teaching-Learning and Evaluation

350

KeyIndicator-2.3.Teaching-Learning Process (40)

2021-2022

MECHANICAL ENGINEERING

PARTICIPATIVE LEARNING

VALUE ADDED COURSE



Indra Ganesan

COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B), Manikandam, Trichy-12.
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Department of Mechanical Engineering

Academic Year 2021-2022 –Odd Semester

07.12.2021

DEPARTMENT CIRCULAR

Department of Mechanical Engineering and IQAC of IGCE in Association with CADD centre, Trichy is going to organize Value added course for all III, IV Year students on “Solid state Joining Technologies” From 13.12.2021 to 18.12.2021, certificates will be issued to be eligible participants at the end of the course. This training is to be provided in our campus.


Resource Person Details	1. Mr.Faizal Ahamed Trainer, UNIQ-MEP, Trichy 2.Mr.Sundaramoorthi, Trainer, UNIQ-MEP, Trichy
Venue	GOOGLE MEET Meet Link: meet.google.com/hiz-vzeg-sre


HoD/MECH


PRINCIPAL

Cc:

- Principal office
- IQAC Co-Ordinator
- Mechanical Faculties Room
- Class In charges - III & IV-Year
- III & IV-Year MECH Students Class Room
- Office Notice Board


Dr. G. Balakrishnan, M.E., Ph.D.
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.



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Value Added Course

“Solid state Joining Technologies”

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction Manufacturing and Joining process	3	13.12.2021
2	Principle of fusion Welding process	3	13.12.2021
3	Brazing process	3	14.12.2021
4	Safe analysis of metallic joints	3	14.12.2021
5	Solidification of weld metals	3	15.12.2021
6	Explosive welding	3	15.12.2021
7	Weldability of aluminium alloys	3	16.12.2021
8	Residual stress and distortion	3	16.12.2021
9	FEM for manufacturing process	2	17.12.2021
10	Failure analysis and prevention	2	17.12.2021
11	Hybrid joining technologies	2	18.12.2021
11	Exam	1	18.12.2021
Total Hours		30	

VAC Coordinator

HoD/MECH

Dr. G. Balakrishnan, M.E., Ph.D.
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Value Added Course

“Solid state Joining Technologies”

STUDENTS PARTICIPATION LIST

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal

Indra Ganesan College of Engineering,
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

S.NO	REG NO	NAME	YEAR
1	811218114001	Abinash P	IV /MECHANICAL
2	811218114002	Ajith Kumar M	IV /MECHANICAL
3	811218114003	Arun Pandian M R	IV /MECHANICAL
4	811218114004	Alaguraja M	IV /MECHANICAL
5	811218114005	Balasubramani K	IV /MECHANICAL
6	811218114006	Dineshkumar K	IV /MECHANICAL
7	811218114007	Ganesapandy K	IV /MECHANICAL
8	811218114010	Murugappan P	IV /MECHANICAL
9	811218114011	Prasanth R	IV /MECHANICAL
10	811218114012	Praveen A	IV /MECHANICAL
11	8.11218E+11	Rabin Singh X	IV /MECHANICAL
12	811218114014	Ramesh.M	IV /MECHANICAL
13	811218114015	Renish Bharathi S	IV /MECHANICAL
14	811218114016	Santhosh K	IV /MECHANICAL
15	811218114017	Sathish Selva A	IV /MECHANICAL
16	811218114018	Tamilselvan T	IV /MECHANICAL
17	811218114019	Vasanth D	IV /MECHANICAL
18	811218114020	Vikram S	IV /MECHANICAL
19	811218114021	Vishnu B	IV /MECHANICAL
20	811218114022	Yogavishuvabarathi G	IV /MECHANICAL
21	811218114023	Vigneshwaran C	IV /MECHANICAL
22	811218114301	Dharmaseelan M	IV /MECHANICAL
23	811218114302	Mahamuni R	IV /MECHANICAL
24	811218114304	Ramakrishnan M	IV /MECHANICAL
25	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL
26	811219114001	Aathilingam V	III /MECHANICAL
27	811219114002	Abimanyu C	III /MECHANICAL
28	811219114003	Ajay S	III /MECHANICAL
29	811219114004	Christy Lourthu Samy A	III /MECHANICAL
30	811219114006	Periyasamy P	III /MECHANICAL
31	811219114008	Saravana Kumar V	III /MECHANICAL



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S.NO	REG NO	NAME	YEAR
32	811219114010	Siriyac Selva A	III /MECHANICAL
33	811219114011	Suriyaganesh M	III /MECHANICAL
34	811219114012	Vaithiyalingam M	III /MECHANICAL
35	811219114013	Vikash R	III /MECHANICAL
36	811219114301	Hariharan R	III /MECHANICAL
37	811219114302	Mohanraj G	III /MECHANICAL
38	811219114303	Sivash K	III /MECHANICAL
39	811219114700	Gokul R	III /MECHANICAL
40	811219114701	Praveen S	III/MECHANICAL
41	811219114702	Madhan Murugan S	III /MECHANICAL
42	811219114703	Muthukaruppan M	III /MECHANICAL
43	811219114704	Inigo Rithish P	III /MECHANICAL

VAC Coordinator

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S.No.	Reg.No	Student's Name	Year/ Branch	DATE: 13.12.21		DATE: 14.12.21		DATE: 15.12.21		DATE: 16.12.21		DATE: 17.12.21		DATE: 18.12.21		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
23	811218114302	Mahamuni R	IV /MECHANICAL	/	/	/	/	a	/	/	/	/	/	/	/	9	Online Mode
24	811218114303	Naveen Kumar T	IV /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
25	811218114304	Ramakrishnan M	IV /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
26	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL	/	/	/	a	/	/	/	/	/	/	/	/	9	
27	811219114001	Aathilingam V	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
28	811219114002	Abimanyu C	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	9	
29	811219114003	Ajay S	III /MECHANICAL	/	/	/	/	/	/	a	/	/	/	/	/	9	
30	811219114004	Christy Lourthu Samy A	III /MECHANICAL	/	/	/	/	/	/	/	a	/	/	/	/	9	
31	811219114006	Periyasamy P	III /MECHANICAL	/	/	/	/	/	/	/	/	/	a	/	/	9	
32	811219114008	Saravana Kumar V	III /MECHANICAL	/	/	/	/	a	a	/	/	/	/	/	/	8	
33	811219114010	Siriyac Selva A	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
34	811219114011	Suriyaganesh M	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
35	811219114012	Vaithiyalingam M	III /MECHANICAL	/	/	/	/	/	/	/	/	a	/	/	/	9	
36	811219114013	Vikash R	III /MECHANICAL	/	/	/	/	/	/	/	a	/	/	/	/	9	
				/	/	/	/	/	/	a	/	/	a	/	/	8	


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S.No.	Reg.No	Student's Name	Year/ Branch	DATE: 13.12.21		DATE: 14.12.21		DATE: 15.12.21		DATE: 16.12.21		DATE: 17.12.21		DATE: 18.12.21		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
37	811219114301	Hariharan R	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	9	Online Mode
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40	811219114701	Gokul R	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	9	
41	811219114702	Madhan Murugan S	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	9	
42	811219114703	Muthukaruppan M	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	9	
43	811219114704	Inigo Rithish P	III /MECHANICAL	/	/	/	/	/	/	/	/	/	/	/	/	10	
				/	/	/	/	/	/	/	/	/	/	/	/	10	


VAC Coordinator





Dr. G. Balakrishnan, M.E., Ph.D.,
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HoD/MECHANICAL



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Report on Value Added Course					
Title:	Solid state Joining Technologies				
Resource Person:	1.Mr.Faizal Ahamed &2.Mr.Sundaramoorthi, Officer, UNIQ-MEP Trichy.				
Date of conduct from :	13.12.2021	To:	18.12.2021	Duration:	30 Hours
Organized Department :	MECHANICAL ENGINEERING				
Participant Year:	3, 4	No. of Students Registered :	43		
Venue:	GOOGLE MEET online mode Google Meet: meet.google.com/hiz-vzeg-sre				
Outcome of Value Added Course (VAC): At the end of the Course, Students can able to					
<ul style="list-style-type: none">• Knowledge about Forge welding process• Learning platform about cold welding process• Know the practical skill development knowledge about diffusion welding process.• friction welding and explosion welding process• Industrial application oriented hot pressure welding process.					
Assessment Process					
<ul style="list-style-type: none">• Students, who are securing more than 70% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted• Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$					
<div style="display: flex; justify-content: space-around;"><div style="text-align: center;"> VAC Coordinator</div><div style="text-align: center;"> HOD/MECH</div><div style="text-align: center;"> Principal</div></div>					

Dr. G. Balakrishnan, M.E., Ph.D.,
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Sample Photos of Value Added Course

Title:	Solid state Joining Technologies				
Resource Person:	Mr.Faizal Ahamed,Mr.Sundaramoorthi, Officer, UNIQ-MEP Trichy.				
Date of conduct from :	13.12.2021	To:	18.12.2021	Duration:	30 Hours
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Participant Year:	3, 4	No. of Students Registered :	43		
Venue:	GOOGLE MEET online mode Google Meet: meet.google.com/hiz-vzeg-sre				


Sample Photo




VAC Coordinator


HOD/MECH


Principal


Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.



Name of the Student :

Year/Sem:

AU Register Number:

Value Added Course

“Solid state joining Technologies”

MCQ QUESTIONS (25X4 = 100 Marks)

- 1) What we call the resistance of a material against any external force.
- a. Stiffness
 - b. Hardness
 - c. Strength
 - d. Malleability
-
- 2) Which hardness test uses the steel ball as indenter?
- a. Brinell Hardness test
 - b. Rockwell B hardness test
 - c. Vickers hardness test
 - d. Rockwell C hardness test
-
- 3) In which test, the specimen will be used in the form of the supported beam?
- a. Brinell Test
 - b. Izod test
 - c. Rockwell hardness test
 - d. Charpy Test
-



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4) Which metal from the following has the non-crystalline structure?

- a. Quartz
 - b. Silica Glass
 - c. Tungsten
 - d. Iron
-

5) Which of the following has less crystallinity?

- a. Iron
 - b. Low-density polythene
 - c. High-density polythene
 - d. nickel
-

6) Which of the following axis system is being satisfied by tetragonal crystal system?

- a. $a = b \neq c, \alpha = \beta = \gamma = 90^\circ$
 - b. $a = b = c, \alpha \neq \beta = \gamma = 90^\circ$
 - c. $a = b = c, \alpha = \beta = \gamma = 90^\circ$
 - d. $a \neq b \neq c, \alpha = \beta = \gamma = 90^\circ$
-

7) Which one of the following is least symmetrical?

- a. Triclinic
 - b. Monoclinic
 - c. Tetragonal
 - d. Simple Qubic
-

Dr. G. Balakrishnan, M.E., Ph.D.,
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8) ASTM stands for?

- a. American Society for Tool Measurement
 - b. American Society for Tensile Material
 - c. American Society for Tensile Measurement
 - d. American Society for Testing and Materials
-

9) What is the scale range of the Mohs hardness test?

- a. 1 - 1000
 - b. 100 - 200
 - c. 1 - 3000
 - d. 1-10
-

10) Cast iron is a product of _____

- a. Cupola
 - b. Blast Furnace
 - c. Open hearth furnace
 - d. Bessemer converter
-

11) Wrought iron is a product of _____

- a. Cupola
- b. Paddling furnace
- c. Blast furnace
- d. Bessemer converter

S. Sankarshnan, M.E., Ph.D.,
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12) Which of the following induces fine-grain distribution in alloy steel?

- a. Nickel
 - b. Titanium
 - c. Manganese
 - d. Vanadium
-

13) Tensile strength of alloy steel can be improved by adding _____

- a. Nickel
 - b. Titanium
 - c. Manganese
 - d. vanadium
-

14) Which of the following is the hardest constituent of steel?

- a. Ledeburite
 - b. Marten site
 - c. Bainite
 - d. austenite
-

15) Iron possesses BCC crystal structure up to (in degree centigrade)?

- a. 910
- b. 1410
- c. 1539
- d. 768

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16) Which of the following form of iron is magnetic?

- a. δ
- b. γ
- c. λ
- d. α

17) Which of the following are ceramics solids?

- a. Non-metallic, inorganic, and crystalline solids
- b. Metallic, inorganic, and amorphous solids
- c. Non-metallic, inorganic, and amorphous solids
- d. Non-metallic, organic, and amorphous solids

18) For an M10 grade RCC (Reinforced Cement Concrete), the cement ratio to aggregate to the sand is?

- a. 1:2:3
- b. 1:2:6
- c. 1:3:6
- d. 1:3:4

19) Which one of the following can act as a modifier in the glass-forming process

- a. Silicon dioxide
- b. Phosphorous oxide
- c. Magnesium oxide
- d. Sodium oxide


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20) Which of the following is not a laminar composite

- a. Bimetallic
 - b. Wood
 - c. Paints
 - d. cladding
-

21) In sandwich composites, which of the following material can be used for filling purposes?


- a. Wood
 - b. Cement
 - c. All of them
 - d. polymer
-

22) Which of the following has a greater impact on the longitudinal strength of reinforced composites?

- a. Fiber orientation
 - b. Fiber diameter
 - c. Fiber length
 - d. Fiber strength
-

23) Angle between side cutting edge and end cutting edge in the top surface plane of the tool.

- a. Side rake angle
- b. Nose angle
- c. Side cutting edge angle
- d. Side relief angle


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24) What is the maximum allowed value of VB in mm for the HSS tool used with the cast iron work piece for rough machining?

- a. 0.5
- b. 2
- c. 1.5
- d. 1

25) Which of the following tools is most suitable for very hard and brittle material?

- a. HSS
- b. Carbides
- c. None of them
- d. Cast cobalt alloy


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Value Added Course
“solid state Joining Technologies”

ANSWER KEY

1	c	6	c	11	b	16	c	21	b
2	b	7	b	12	a	17	d	22	d
3	d	8	d	13	b	18	b	23	c
4	b	9	a	14	d	19	a	24	a
5	c	10	d	15	a	20	c	25	b

VAC COORDINATOR

S. S. Sankrishnan, M.E., Ph.D.,
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Name of the Student : 811218114004

Year/Sem: IV / Mech

AU Register Number: Atagunaja

Value Added Course

“Solid state joining Technologies”

MCQ QUESTIONS (25X4 = 100 Marks)

1) What we call the resistance of a material against any external force.

- 2
- a. Stiffness
 - b. Hardness
 - c. Strength
 - d. Malleability

2) Which hardness test uses the steel ball as indenter?

- a. Brinell Hardness test
- b. Rockwell B hardness test
- c. Vickers hardness test
- d. Rockwell C hardness test

3) In which test, the specimen will be used in the form of the supported beam?

- 3
- a. Brinell Test
 - b. Izod test
 - c. Rockwell hardness test
 - d. Charpy Test

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4) Which metal from the following has the non-crystalline structure?

- a. Quartz
- b. Silica Glass
- c. Tungsten
- d. Iron

5) Which of the following has less crystallinity?

- a. Iron
- b. Low-density polythene
- c. High-density polythene
- d. nickel

6) Which of the following axis system is being satisfied by tetragonal crystal system?

- a. $a = b \neq c, \alpha = \beta = \gamma = 90^\circ$
- b. $a = b = c, \alpha \neq \beta = \gamma = 90^\circ$
- c. $a = b = c, \alpha = \beta = \gamma = 90^\circ$
- d. $a \neq b \neq c, \alpha = \beta = \gamma = 90^\circ$

7) Which one of the following is least symmetrical?

- a. Triclinic
- b. Monoclinic
- c. Tetragonal
- d. Simple Qubic



8) ASTM stands for?

- a. American Society for Tool Measurement
- b. American Society for Tensile Material
- c. American Society for Tensile Measurement
- d. American Society for Testing and Materials

9) What is the scale range of the Mohs hardness test?

- a. 1 - 1000
- b. 100 - 200
- c. 1 - 3000
- d. 1-10

10) Cast iron is a product of _____

- a. Cupola
- b. Blast Furnace
- c. Open hearth furnace
- d. Bessemer converter

11) Wrought iron is a product of _____

- a. Cupola
- b. Puddling furnace
- c. Blast furnace
- d. Bessemer converter

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12) Which of the following induces fine-grain distribution in alloy steel?

- a. Nickel
 - b. Titanium
 - c. Manganese
 - d. Vanadium
-

13) Tensile strength of alloy steel can be improved by adding _____

- a. Nickel
 - b. Titanium
 - c. Manganese
 - d. vanadium
-

14) Which of the following is the hardest constituent of steel?

- a. Ledeburite
 - b. Marten site
 - c. Bainite
 - d. austenite
-

15) Iron possesses BCC crystal structure up to (in degree centigrade)?

- a. 910
 - b. 1410
 - c. 1539
 - d. 768
-

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16) Which of the following form of iron is magnetic?

- a. δ
- b. γ
- c. λ
- d. α

17) Which of the following are ceramics solids?

- a. Non-metallic, inorganic, and crystalline solids
- b. Metallic, inorganic, and amorphous solids
- c. Non-metallic, inorganic, and amorphous solids
- d. Non-metallic, organic, and amorphous solids

18) For an M10 grade RCC (Reinforced Cement Concrete), the cement ratio to aggregate to the sand is?

- a. 1:2:3
- b. 1:2:6
- c. 1:3:6
- d. 1:3:4

19) Which one of the following can act as a modifier in the glass-forming process

- a. Silicon dioxide
- b. Phosphorous oxide
- c. Magnesium oxide
- d. Sodium oxide


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20) Which of the following is not a laminar composite

- a. Bimetallic
- b. Wood
- c. Paints
- d. cladding

21) In sandwich composites, which of the following material can be used for filling purposes?


- a. Wood
- b. Cement
- c. All of them
- d. polymer

22) Which of the following has a greater impact on the longitudinal strength of reinforced composites?

- a. Fiber orientation
- b. Fiber diameter
- c. Fiber length
- d. Fiber strength

23) Angle between side cutting edge and end cutting edge in the top surface plane of the tool.

- a. Side rake angle
- b. Nose angle
- c. Side cutting edge angle
- d. Side relief angle


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24) What is the maximum allowed value of VB in mm for the HSS tool used with the cast iron work piece for rough machining?

- a. 0.5
- b. 2
- c. 1.5
- d. 1

25) Which of the following tools is most suitable for very hard and brittle material?

- a. HSS
- b. Carbides
- c. None of them
- d. Cast cobalt alloy

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Department of Mechanical Engineering

Academic Year 2021-2022 – Odd Semester

VALUE ADDED COURSE ASSESEMENT SHEET

“Solid state Joining technologies”

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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811218114001	Abinash P	IV/MECHANICAL	30	100	20	80	84
2	811218114002	Ajith Kumar M	IV/MECHANICAL	30	100	18	72	74
3	811218114003	Arun Pandian M R	IV/MECHANICAL	29	97	18	72	85
4	811218114004	Alaguraja M	IV/MECHANICAL	29	97	21	84	85
5	811218114005	Balasubramani K	IV/MECHANICAL	30	100	18	72	80
6	811218114006	Dineshkumar K	IV/MECHANICAL	30	100	19	76	81
7	811218114007	Ganesapandy K	IV/MECHANICAL	29	97	18	72	86



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
8	811218114009	Karthikeyan R	IV/MECHANICAL	28	94	17	68	73
9	811218114010	Murugappan P	IV/MECHANICAL	30	100	18	72	78
10	811218114011	Prasanth R	IV/MECHANICAL	29	97	19	76	78
11	811218114012	Praveen A	IV/MECHANICAL	29	97	21	84	89
12	811218114013	Rabin Singh X	IV/MECHANICAL	30	100	20	80	90
13	811218114014	Ramesh.M	IV/MECHANICAL	30	100	21	84	91
14	811218114015	Renish Bharathi S	IV/MECHANICAL	28	94	18	72	83
15	811218114016	Santhosh K	IV/MECHANICAL	30	100	19	76	82
16	811218114017	Sathish Selva A	IV/MECHANICAL	30	100	18	72	78
17	811218114018	Tamilselvan T	IV/MECHANICAL	29	97	21	84	91
18	811218114019	Vasanth D	IV/MECHANICAL	29	97	22	88	84




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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hrs Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
19	811218114020	Vikram S	IV/MECHANICAL	30	100	20	80	84
20	811218114021	Vishnu B	IV/MECHANICAL	30	100	21	84	89
21	811218114022	Yogavishuvabarathi G	IV/MECHANICAL	29	94	20	80	86
22	811218114023	Vigneshwaran C	IV/MECHANICAL	29	94	22	88	94
23	811218114301	Dharmaseelan M	IV /MECHANICAL	30	100	20	80	84
24	811218114302	Mahamuni R	IV /MECHANICAL	29	94	16	64	74
25	811218114304	Ramakrishnan M	IV /MECHANICAL	30	100	21	84	85
26	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL	29	94	18	72	80
27	811219114001	Aathilingam V	III /MECHANICAL	30	100	19	76	81
28	811219114002	Abimanyu C	III /MECHANICAL	29	94	18	72	86



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
29	811219114003	Ajay S	III /MECHANICAL	27	89	17	68	73
30	811219114004	Christy Lourthu Samy A	III /MECHANICAL	27	89	18	72	78
31	811219114006	Periyasamy P	III /MECHANICAL	26	81	19	76	78
32	811219114008	Saravana Kumar V	III /MECHANICAL	29	94	21	84	89
33	811219114010	Siriyac Selva A	III /MECHANICAL	30	100	20	80	90
34	811219114011	Suriyaganesh M	III /MECHANICAL	29	97	21	84	91
35	811219114012	Vaithiyalingam M	III /MECHANICAL	28	94	18	72	83
36	811219114013	Vikash R	III /MECHANICAL	25	89	19	76	82
37	811219114301	Hariharan R	III /MECHANICAL	28	94	18	72	78
38	811219114302	Mohanraj G	III /MECHANICAL	29	94	21	84	91
39	811219114303	Sivash K	III /MECHANICAL	29	94	22	88	84



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
40	811219114701	Gokul R	III /MECHANICAL	28	89	20	80	84
41	811219114702	Madhan Murugan S	III /MECHANICAL	28	89	21	84	89
42	811219114703	Muthukaruppan M	III /MECHANICAL	30	92	20	80	86
43	811219114704	Inigo Rithish P	III /MECHANICAL	30	100	22	88	94


VAC Coordinator


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HOD MECHANICAL



UNI UNIQUE
MEP

CERTIFICATE OF PARTICIPATION

This is to certify that Mr.Sivash K,IV Year,MECH has successfully completed the value added course on "Solid State Joining Technologies" organized by department of Mechanical Engineering and IQAC of our institution in association with UNIQUE-MEP from 13.12.2021 to 18.12.2021(5days) during the Academic Year 2021-2022.

Mr.Faizal Ahamed

UNIQUE-MEP

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PRINCIPAL

IGCE



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Department of Mechanical Engineering

Academic Year 2021-2022 –EVEN Semester

Date: 01.06.2022

DEPARTMENT CIRCULAR

Department of Mechanical Engineering and IQAC of IGCE in Association with CADD centre, Trichy is going to organize Value added course for all II, III, IV Year students on “**Graphene Battery Technologies**” From 06.06.2022 to 11.06.2022, certificates will be issued to be eligible participants at the end of the course. This training is conducted through online mode


Resource Person Details	1.Mr.Balaji Trainer, CADD Centre, Trichy 2.Mr.Sundaramoorthi, Trainer, CADD Centre, Trichy
Venue	Online mode GoogleMeet:meet.google.com/ack-bfod-zmp


HOD MECH


PRINCIPAL

Cc:

- Principal office
- IQAC Co-Ordinator
- Mechanical Faculties Room
- Class In charges –II, III & IV-Year
- II,III & IV-Year MECH class Rooms
- Office Notice Board.


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Value Added Course


“Graphene Battery Technologies”

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Fundamentals of batteries	3	06.06.2022
2	Types of batteries	3	06.06.2022
3	Life cycle and efficiency of batteries	3	07.06.2022
4	Primary batteries	3	07.06.2022
5	Chemistry and technology uses in batteries	3	08.06.2022
6	Electrolyte battery applications	3	08.06.2022
7	Secondary batteries	2	09.06.2022
8	Glass met lead acid battery	2	09.06.2022
9	Lithium iron batteries	2	10.06.2022
10	Fuels cells	3	10.06.2022
11	PEMFC and AFC batteries.	3	11.06.2022
11	Exam	1	11.06.2022
Total Hours		30	


VAC Coordinator


HoD Mechanical


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VALUE ADDED COURSE

Graphene Battery Technologies.

STUDENTS PARTICIPATION LIST

S.NO	REG NO	NAME	YEAR
1	811218114001	Abinash P	IV /MECHANICAL
2	811218114002	Ajith Kumar M	IV /MECHANICAL
3	811218114003	Arun Pandian M R	IV /MECHANICAL
4	811218114004	Alaguraja M	IV /MECHANICAL
5	811218114005	Balasubramani K	IV /MECHANICAL
6	811218114006	Dineshkumar K	IV /MECHANICAL
7	811218114007	Ganesapandy K	IV /MECHANICAL
8	811218114010	Murugappan P	IV /MECHANICAL
9	811218114011	Prasanth R	IV /MECHANICAL
10	811218114012	Praveen A	IV /MECHANICAL
11	8.11218E+11	Rabin Singh X	IV /MECHANICAL
12	811218114014	Ramesh.M	IV /MECHANICAL
13	811218114015	Rehish Bharathi S	IV /MECHANICAL
14	811218114016	Santhosh K	IV /MECHANICAL
15	811218114017	Sathish Selva A	IV /MECHANICAL
16	811218114018	Tamilselvan T	IV /MECHANICAL
17	811218114019	Vasanth D	IV /MECHANICAL
18	811218114020	Vikram S	IV /MECHANICAL
19	811218114021	Vishnu B	IV /MECHANICAL
20	811218114022	Yogavishuvabarathi G	IV /MECHANICAL
21	811218114023	Vigneshwaran C	IV /MECHANICAL
22	811218114301	Dharmaseelan M	IV /MECHANICAL
23	811218114302	Mahamuni R	IV /MECHANICAL
24	811218114303	Naveen Kumar T	IV /MECHANICAL
25	811218114304	Ramakrishnan M	IV /MECHANICAL
26	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL
27	811219114001	Aathilingam V	III /MECHANICAL
28	811219114002	Abimanyu C	III /MECHANICAL
29	811219114003	Ajay S	III /MECHANICAL
30	811219114004	Christy Lourthu Samy A	III /MECHANICAL
31	811219114006	Periyasamy P	III /MECHANICAL
32	811219114008	Saravana Kumar V	III /MECHANICAL
33	811219114010	Siriyac Selva A	III /MECHANICAL
34	811219114011	Suriyaganesh M	III /MECHANICAL
35	811219114012	Vaithiyalingam M	III /MECHANICAL
36	811219114013	Vikash R	III /MECHANICAL
37	811219114301	Hariharan R	III /MECHANICAL
38	811219114302	Mohanraj G	III /MECHANICAL
39	811219114303	Sivash K	III /MECHANICAL
40	811219114701	Gokul R	III /MECHANICAL
41	811219114702	Madhan Murugan S	III /MECHANICAL

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S.NO	REG NO	NAME	YEAR
42	811219114703	Muthukaruppan M	III /MECHANICAL
43	811219114704	Inigo Rithish P	III /MECHANICAL
44	811220114001	Abinesh As	II /MECHANICAL
45	811220114003	Anbarasan M	II /MECHANICAL
46	811220114005	Arunkumar M	II /MECHANICAL
47	811220114008	Balamurugan R	II /MECHANICAL
48	811220114013	Dhanushraja P	II /MECHANICAL
49	811220114015	Durai Pandi A	II /MECHANICAL
50	811220114017	Hariharan M	II /MECHANICAL
51	811220114020	Kanishkavardhini S	II /MECHANICAL
52	811220114025	Kishor Kumar D	II /MECHANICAL
53	811220114026	Loganathan C	II /MECHANICAL
54	811220114032	Mohamed Ashif A	II /MECHANICAL
55	811220114039	Sanjay Kumar M	II /MECHANICAL
56	811220114040	Santhosh Kumar R	II /MECHANICAL
57	811220114042	Saranya Sree Tr	II /MECHANICAL
58	811220114043	Saravanan M	II /MECHANICAL
59	811220114044	Sathishkumar V	II /MECHANICAL
60	811220114047	Sheik Ameer M	II /MECHANICAL
61	811220114052	Thamaraiselvan K	II /MECHANICAL
62	811220114056	Vigneswaran K	II /MECHANICAL
63	811220114057	Vijayakumar G	II /MECHANICAL
64	811220114060	Yuvaraja A	II /MECHANICAL
65	811220114302	Chellapandian R	II /MECHANICAL
66	811220114303	Jeeva Ganesh S J	II /MECHANICAL
67	811220114304	Kabilan P	II /MECHANICAL
68	811220114305	Mohamed Nafil A	II /MECHANICAL
69	811220114306	Ruban A	II /MECHANICAL


VAC Coordinator


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HoD/Mechanical



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S.No.	Reg.No	Student's Name	Year/ Branch	DATE: 06.06.22		DATE: 07.06.22		DATE: 08.06.22		DATE: 09.06.22		DATE: 10.06.22		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
9	811218114011	Prasanth R	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
10	811218114012	Praveen A	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
11	8.11218E+11	Rabin Singh X	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
12	811218114014	Ramesh.M	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
13	811218114015	Renish Bharathi S	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
14	811218114016	Santhosh K	IV /MECHANICAL	✓	✓	✓	✓	α	α	✓	✓	✓	✓	8	online
15	811218114017	Sathish Selva A	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
16	811218114018	Tamilselvan T	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
17	811218114019	Vasanth D	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
18	811218114020	Vikram S	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
19	811218114021	Vishnu B	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
20	811218114022	Yogavishuvabarathi G	IV /MECHANICAL	✓	✓	α	α	✓	✓	✓	✓	✓	✓	08	online
21	811218114023	Vigneshwaran C	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
22	811218114301	Dharmaseelan M	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online



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S.No.	Reg.No	Student's Name	Year/ Branch	DATE: 06.06.22		DATE: 07.06.22		DATE: 08.06.22		DATE: 09.06.22		DATE: 10.06.22		NO OF SESSIONS ATTENDED	SIGNATUR E OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
23	811218114302	Mahamuni R	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
24	811218114303	Naveen Kumar T	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
25	811218114304	Ramakrishnan M	IV /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
26	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	8	online
27	811219114001	Aathilingam V	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
28	811219114002	Abimanyu C	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
29	811219114003	Ajay S	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
30	811219114004	Christy Lourthu Samy A	III /MECHANICAL	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	8	online
31	811219114006	Periyasamy P	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
32	811219114008	Saravana Kumar V	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	8	online
33	811219114010	Siriyac Selva A	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
34	811219114011	Suriyaganesh M	III /MECHANICAL	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	8	online
35	811219114012	Vaithiyalingam M	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
36	811219114013	Vikash R	III /MECHANICAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	online
				✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	8	online



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COLLEGE OF ENGINEERING

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Report on Value Added Course

Title: **Graphene Battery Technologies.**

Resource Person1: Mr. Abhu
Co-ordinator
UNIQ-MEP,
Trichy

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Resource Person2: Mr. Yasar Arafath
Co-ordinator
UNIQ-MEP,
Trichy

Date of conduct from : 06.06.2022 To: 11.06.2022 Duration: 30 Hours

Organized Department : MECHANICAL ENGINEERING

Participant Year: 2,3, 4 No. of Students Registered : 69

Venue: Google Meet
online mode Google Meet: meet.google.com/ack-bfod-zmp

Outcome of Value Added Course (VAC): At the end of the Course, Students can able to


- Introduce the various terms to understand the efficiency of batteries
- know the relevant materials required for the construction of primary and secondary batteries
- familiarize with the reactions involved during charging and discharging batteries process
- Evaluate different batteries or fuel cells in order to select a suitable battery or fuel cell for a given application
- Explain the working principle, electrochemistry technology and application of prominent fuel cells

Assessment Process

- Students, who are securing more than 70% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$


VAC Coordinator


HoD/MECHANICAL


Principal



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Sample Photo of Value Added Course

Title: **Graphene Battery Technologies.**

Resource Person1: Mr. Abhu
Co-ordinator
UNIQ-MEP,
Trichy

Resource Person2: Mr. Yasar Arafath
Co-ordinator
UNIQ-MEP,
Trichy

Dr. C. Balakrishnan, M.E., Ph.D.,
Principal
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IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Date of conduct from : 06.06.2022 To: 11.06.2022 Duration: 30 Hours

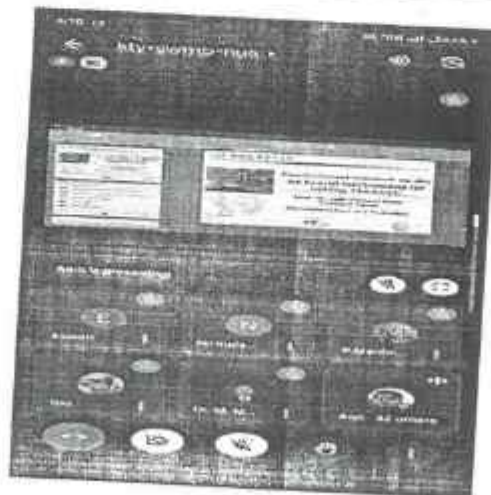
Organized Department : MECHANICAL ENGINEERING

Participant Year: 2,3, 4

No. of Students Registered : 69

Venue: **Online mode:**
Google Meet: meet.google.com/ack-bfod-zmp

Sample Photo



N. Jay
VAC Coordinator

P. Pandy
HoD/MECHANICAL

[Signature]
Principal



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Name of the Student:


Year/Sem:

AU Register Number:

Value Added Course

“Graphene Battery Technologies”

1. The current flow through electrolyte is due to the movement of
 - (A) ions
 - (B) holes
 - (C) electrons
 - (D) none of the above
2. If a lead-acid cell is discharged below 1.8 V the following will happen.
 - (A) Capacity of cell will reduce
 - (B) Sulphation of plates will occur
 - (C) Internal resistance will increase
 - (D) All above will occur
3. Each cell has a vent cap
 - (A) to allow gases out when the cell is on charge
 - (B) to add water to the cell if needed
 - (C) to check the level of electrolyte
 - (D) to do all above functions
4. Following will occur if level of electrolyte falls below plates
 - (A) capacity of the cell is reduced
 - (B) life of the cell is reduced
 - (C) open plates are converted to lead sulphate
 - (D) all above


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5. Which of the following battery is used for air-craft ?
- (A) Lead-acid battery
 - (B) Nickel-iron battery
 - (C) Dry cell battery
 - (D) Silver oxide battery
6. Cells are connected in parallel to
- (A) increase the efficiency
 - (B) increase the current capacity
 - (C) increase the voltage output
 - (D) increase the internal resistance
7. In a battery cover is placed over the element and sealed to the top of the battery container. This is done
- (A) to reduce evaporation of water from electrolyte
 - (B) to exclude dirt and foreign matter from the electrolyte
 - (C) to discharge both of the above functions
 - (D) to discharge none of the above functions
8. Level of electrolyte in a cell should be _____ the level of plates
- (A) below
 - (B) equal to
 - (C) above
 - (D) none of the above
9. Under normal charging rate, the charging current should be
- (A) 10% of capacity
 - (B) 20% of capacity
 - (C) 30% of capacity
 - (D) 40% of capacity


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10. Satellite power requirement is provided through
- (A) solar cells
 - (B) dry cells
 - (C) nickel-cadmium cells
 - (D) lead-acid batteries
11. A constant-voltage generator has
- (A) minimum efficiency
 - (B) minimum current capacity
 - (C) low internal resistance
 - (D) high internal resistance
12. 48 ampere-hour capacity would deliver a current of
- (A) 48 amperes for 1 hour
 - (B) 24 amperes for 2 hours
 - (C) 8 amperes for 6 hours
 - (D) 6 amperes for 8 hours
13. Mercury cell has which of the following characteristics ?
- (A) Flat discharge current-voltage curve
 - (B) High power to weight ratio
 - (C) Comparatively longer shelf life under adverse conditions of high temperature and humidity
 - (D) All of the above


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14. Which of the following factors adversely affects the capacity of the lead acid battery ?
- (A) Temperature of surroundings
 - (B) Specific gravity of electrolyte
 - (C) Rate of discharge
 - (D) All of the above
15. Internal resistance of a cell is reduced by
- (A) using vent plug to permit gas formed during discharge
 - (B) increasing the plate area
 - (C) putting plates very close together
 - (D) all above methods
16. Trickle charging of a storage battery helps to
- (A) maintain proper electrolyte level
 - (B) increase its reserve capacity
 - (C) prevent sulphation
 - (D) keep it fresh and fully charged
17. It is noticed that during charging
- (A) there is a rise in voltage
 - (B) energy is absorbed by the cell
 - (C) specific gravity of H_2SO_4 is increased
 - (D) the anode becomes chocolate brown in colour (PbO_2) and cathode becomes grey metallic lead (Pb)
 - (E) all of the above



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18. Which of the following cell has a reversible chemical reaction ?
- (A) Lead-acid
 - (B) Mercury oxide
 - (C) Carbon-zinc
 - (D) Silver-oxide
19. Batteries are charged by
- (A) rectifiers
 - (B) engine generator sets
 - (C) motor generator sets
 - (D) any one of the above methods
20. Cell short circuit results in
- (A) low specific gravity electrolyte
 - (B) abnormal high temperature
 - (C) reduced gassing on charge
 - (D) all above
21. Internal short circuits are caused by
- (A) Breakdown of one or more separators
 - (B) Excess accumulation of sediment at the bottom of the cell
 - (C) Both (A) and (B)
 - (D) None of the above
22. The substances which combine together to store electrical energy during the charge are called _____ materials
- (A) Active
 - (B) Passive
 - (C) Inert
 - (D) Dielectric


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23. Battery container should be acid resistance; therefore it is made up of
- (A) Glass
 - (B) Plastic
 - (C) Wood
 - (D) All of the above
24. _____ of electrolyte indicates the state of charge of the battery
- (A) Colour
 - (B) Mass
 - (C) Viscosity
 - (D) Specific gravity
25. In alkaline cell the electrolyte is
- (A) Dilute sulphuric acid
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Value Added Course

“Graphene Battery Technologies”

ANSWER KEY

1	a	6	b	11	c	16	d	21	b
2	d	7	c	12	d	17	e	22	d
3	d	8	c	13	d	18	a	23	c
4	d	9	a	14	d	19	d	24	a
5	b	10	a	15	d	20	d	25	b


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VAC Coordinator


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Name of the Student: Praveena A

Year/Sem: 10/mech


AU Register Number: 811218114012

Value Added Course

“Graphene Battery Technologies”

22/25

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Department of Mechanical Engineering
Academic Year 2021-2022 – Odd Semester
VALUE ADDED COURSE ASSESEMENT SHEET

“Graphene Battery Technology”

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811218114001	Abinash P	IV/MECHANICAL	30	100	20	80	90
2	811218114002	Ajith Kumar M	IV/MECHANICAL	30	100	18	72	86
3	811218114003	Arun Pandian M R	IV/MECHANICAL	28	93	18	72	83
4	811218114004	Alaguraja M	IV/MECHANICAL	29	97	21	84	90
5	811218114005	Balasubramani K	IV/MECHANICAL	28	93	18	72	83
6	811218114006	Dineshkumar K	IV/MECHANICAL	29	97	19	76	86
7	811218114007	Ganesapandy K	IV/MECHANICAL	26	87	18	72	79



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
8	811218114009	Karthikeyan R	IV/MECHANICAL	28	93	17	68	81
9	811218114010	Murugappan P	IV/MECHANICAL	30	100	18	72	86
10	811218114011	Prasanth R	IV/MECHANICAL	28	93	19	76	85
11	811218114012	Praveen A	IV/MECHANICAL	28	93	21	84	89
12	811218114013	Rabin Singh X	IV/MECHANICAL	26	87	20	80	83
13	811218114014	Ramesh.M	IV/MECHANICAL	26	87	21	84	85
14	811218114015	Renish Bharathi S	IV/MECHANICAL	28	93	18	72	83
15	811218114016	Santhosh K	IV/MECHANICAL	28	93	19	76	85
16	811218114017	Sathish Selva A	IV/MECHANICAL	26	87	18	72	79
17	811218114018	Tamilselvan T	IV/MECHANICAL	28	93	21	84	89



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
18	811218114019	Vasanth D	IV/MECHANICAL	29	98	22	88	84
19	811218114020	Vikram S	IV/MECHANICAL	28	93	20	80	84
20	811218114021	Vishnu B	IV/MECHANICAL	30	100	21	84	89
21	811218114022	Yogavishuvabarathi G	IV/MECHANICAL	28	93	20	80	86
22	811218114023	Vigneshwaran C	IV/MECHANICAL	29	98	22	88	94
23	811218114301	Dharmaseelan M	IV /MECHANICAL	26	87	20	81	84
24	811218114302	Mahamuni R	IV /MECHANICAL	30	100	16	82	80
25	811218114303	Naveen Kumar T	IV /MECHANICAL	30	100	18	82	85
26	811218114304	Ramakrishnan M	IV /MECHANICAL	30	100	21	84	85
27	811218114306	Subeekshiseeth Prasana D	IV /MECHANICAL	28	93	18	83	80
28	811219114001	Aathilingam V	III /MECHANICAL	29	98	19	86	81



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
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29	811219114002	Abimanyu C	III /MECHANICAL	28	93	18	72	83
30	811219114003	Ajay S	III /MECHANICAL	24	80	19	76	78
30	811219114004	Christy Lourthu Samy A	III /MECHANICAL	26	87	18	72	79
31	811219114006	Periyasamy P	III /MECHANICAL	28	93	19	76	85
32	811219114008	Saravana Kumar V	III /MECHANICAL	28	93	21	84	89
33	811219114010	Siriyac Selva A	III /MECHANICAL	28	93	20	80	87
34	811219114011	Suriyaganesh M	III /MECHANICAL	24	80	21	84	82
35	811219114012	Vaithiyalingam M	III /MECHANICAL	26	87	18	72	79
36	811219114013	Vikash R	III /MECHANICAL	27	90	19	76	83
37	811219114301	Hariharan R	III /MECHANICAL	28	93	18	72	83
38	811219114302	Mohanraj G	III /MECHANICAL	28	93	18	72	83



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NAAC Accredited, 2(F) Status Institution by UGC



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
39	811219114303	Sivash K	III /MECHANICAL	26	87	21	84	85
40	811219114701	Gokul R	III /MECHANICAL	28	93	22	88	91
41	811219114702	Madhan Murugan S	III /MECHANICAL	26	87	20	80	83
42	811219114703	Muthukaruppan M	III /MECHANICAL	28	93	21	84	89
43	811219114704	Inigo Rithish P	III /MECHANICAL	28	93	20	80	87
44	811220114001	Abinesh As	II /MECHANICAL	26	87	22	88	87
45	811220114003	Anbarasan M	II /MECHANICAL	28	93	19	76	85
46	811220114005	Arunkumar M	II /MECHANICAL	30	100	21	84	92
47	811220114008	Balamurugan R	II /MECHANICAL	28	93	20	80	87
48	811220114013	Dhanushraja P	II /MECHANICAL	26	87	21	84	85
49	811220114015	Durai Pandi A	II /MECHANICAL	28	93	18	72	83



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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
50	811220114017	Hariharan M	II /MECHANICAL	28	93	19	76	85
51	811220114020	Kanishkavardhini S	II /MECHANICAL	30	100	18	72	86
52	811220114025	Kishor Kumar D	II /MECHANICAL	28	93	21	84	89
53	811220114026	Loganathan C	II /MECHANICAL	28	93	22	88	91
54	811220114032	Mohamed Ashif A	II /MECHANICAL	26	87	20	80	83
55	811220114039	Sanjay Kumar M	II /MECHANICAL	28	93	21	84	89
56	811220114040	Santhosh Kumar R	II /MECHANICAL	28	93	20	80	87
57	811220114042	Saranya Sree Tr	II /MECHANICAL	28	93	22	88	91
58	811220114043	Saravanan M	II /MECHANICAL	26	87	18	72	79
59	811220114044	Sathishkumar V	II /MECHANICAL	28	93	21	84	89
60	811220114047	Sheik Ameer M	II /MECHANICAL	28	93	18	72	83



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CERTIFICATE OF PARTICIPATION

This is to certify that Mr.Ramesh.M,IV Year,Mech has successfully completed the value added course on "Graphene Battery Technologies" organized by department of mechanical Engineering and IQAC of our institution in association with CADD CENTRE from 06.06.2022 to 11.06.2022(5days) during the Academic Year 2021-2022

Balaji

BALAJI
CADD CENTRE



[Signature]

PRINCIPAL
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S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
61	811220114052	Thamaraiselvan K	II /MECHANICAL	28	93	19	76	85
62	811220114056	Vigneswaran K	II /MECHANICAL	30	100	18	72	86
63	811220114057	Vijayakumar G	II /MECHANICAL	28	93	17	68	81
64	811220114060	Yuvaraja A	II /MECHANICAL	28	93	18	72	83
65	811220114302	Chellapandian R	II /MECHANICAL	26	87	19	76	81
66	811220114303	Jeeva Ganesh S J	II /MECHANICAL	28	93	21	84	89
67	811220114304	Kabilan P	II /MECHANICAL	30	100	20	80	90
68	811220114305	Mohamed Nafil A	II /MECHANICAL	30	100	21	84	92
69	811220114306	Ruban A	II /MECHANICAL	30	100	18	72	86


VAC Coordinator


HoD/MECHANICAL