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SASURIE COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai

Near NH544, Coimbatore Bypass, Near Vijayamangalam Tollgate,Tirupur 638056

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION - 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

SASURIE COLLEGE OF ENGINEERING

SASURIE COLLEGE OF ENGINEERING
Vijayamangalam, Tiruppur.

1.2 AcademicFlexibility(30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	**SMART GRIDS FOR BUILDINGS**				
Resource Person:	Er.E.Vignesh, Managing Director, Sri Eshwar Construction, Tirupur – 641665.	Er.R.R.Vickram, CEO, Sri Eshwar Construction, Tirupur – 641665.			
Dat e of conduct from:	**26.04.2021**	**To:**	**30.04.2021**	**Duration:**	**30 Hours**
Organized Department:	**ELECTRICAL AND ELECTRONICS ENGINEERING**				
Participant Year:	**2/3/4**	**Semester:**	**EVEN**	**No. of Students Registered:**	**34**
Venue:	**Online Gmeet link - "https://meet.google.com/ysd-cwvg-yqa"**				

TABLE OF CONTENT

SASURIE INSTITUTIONS

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SASURIE
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Approved by AICTE, New Delhi
Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Ref: SCE / EEE / Students / VAC / 2020 – 2021 / EVEN

19.04.2021

CIRCULAR

In order to bridge the curricular gap between the Academic Syllabus and Industry requirements, Department of Electrical and Electronics Engineering and IQAC of our Institution in association with **Sri Eshwar Construction**, is organizing a **Value Added Course (VAC)** for the students of II, III and IV year of EEE & CIVIL on the title **"Smart Grids for Buildings"** from **26.04.2021** to **30.04.2021**. At the end of the VAC, course completion certificates will be issued to the eligible participants as per the following norms.

- Students, who are securing **more than 70% on total score in the VAC test** and secured more than 75% in VAC attendance is eligible to receive the course completion certificate for the VAC attended.

Resource Person Details	Er.E.Vignesh, Managing Director, Sri Eshwar Construction, Tirupur – 641665.	Er.R.R.Vickram, CEO, Sri Eshwar Construction, Tirupur – 641665.
Venue	**Online Gmeet link - "https://meet.google.com/ysd-cwvg-yqa"**	

HOD/EEE

PRINCIPAL

Copy to:

1. Chairman & Secretary for information
2. Principal office
3. IQAC Co-Ordinator
4. Class In charges - II, III & IV-Year EEE & CIVIL
5. II, III & IV-Year EEE & CIVIL Students
6. EEE & CIVIL Notice Board
7. Department File

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Vijayamangalam - 638 056, Tirupur (Dt).

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Ref: SCE / EEE /Students / VAC / 2020 – 2021 / EVEN 19.04.2021

SYLLABUS - VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5 days)

Duration : 30 Hours **Academic Year : 2020 -2021 /EVEN**

S.No.	Topics Covered	Duration (In Hours)	Date
1	Introduction to Smart Grids	3	26.04.2021
2	Energy Management Systems (EMS)	3	26.04.2021
3	Advanced Metering Infrastructure (AMI)	3	27.04.2021
4	Demand Response Strategies	3	27.04.2021
5	Grid Modernization and Resilience	3	28.04.2021
6	Integration of Renewable Energy Sources	3	28.04.2021
7	Home Energy Management Systems (HEMS)	3	29.04.2021
8	Cybersecurity in Smart Grids	3	29.04.2021
9	Distributed Energy Resources (DERs)	3	30.04.2021
10	Regulatory Framework and Policies	3	30.04.2021
	Total Hours	30	-

After successful completion of 30 Hours VAC, the assessment test for the VAC titled "Smart Grids for Buildings" will be conducted on 30.04.2021.

VAC Coordinator

HoD/EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5 days)

Duration : 30 Hours **Academic Year : 2020 -2021 /EVEN**

S.No.	Reg No.	Name of the Student	Year / Branch
1	732419105001	AJITH KUMAR S	II/EEE
2.	732419105002	DINESH M	II/EEE
3.	732419105004	NAVEENKUMAR A	II/EEE
4.	732419105005	PRAVEEN KUMAR M	II/EEE
5.	732418105002	JAYAPRIYA R	III/EEE
6.	732417105002	ANJANA S	IV/EEE
7.	732417105004	BARANIDHARAN P	IV/EEE
8.	732417105006	KALEESWARAN P	IV/EEE
9.	732417105007	KEERTHANA G	IV/EEE
10.	732417105008	MALATHI S R	IV/EEE
11.	732417105009	MARIA AROCKIYAM D	IV/EEE
12.	732417105010	PRAKASH M	IV/EEE
13.	732417105011	RAMESH KUMAR T	IV/EEE
14.	732417105012	SATHISHKUMAR R	IV/EEE
15.	732417105013	SEDHUMADHAVAN A	IV/EEE
16.	732417105014	SHANMUGAM S	IV/EEE
17.	732417105015	SOUNDARYA T	IV/EEE
18.	732417105016	SREEVENI S	IV/EEE
19.	732417105019	VIGNESH S	IV/EEE
20.	732417105701	SEVVANDHI D	IV/EEE
21.	732417105702	RANJITH C	IV/EEE
22.	732419103001	PRAKASH V	II/CIVIL
23.	732419103002	VIPIN H	II/CIVIL
24.	732417103001	BASKARAN K	IV/CIVIL
25.	732417103002	GAYATHRI N	IV/CIVIL
26.	732417103003	GOWTHAM P	IV/CIVIL
27.	732417103004	LAVANYA M	IV/CIVIL
28.	732417103005	NAVEENA S	IV/CIVIL

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STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

S.No.	Reg No.	Name of the Student	Year Branch
29	732417103006	NIVETHA S	IV CIVIL
30	732417103007	SANGAR G	IV CIVIL
31	732417103008	SURYA N	IV CIVIL
32	732417103009	THARUNKUMAR J	IV CIVIL
33	732417103010	VAISHNAVI P	IV CIVIL
34	732417103011	VALLARASU M	IV CIVIL

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VAC Coordinator

HOD EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

STUDENTS ATTENDANCE LIST – VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5days)

Duration: 30 Hours **Academic Year: 2020-2021/EVEN**

S.No	RegNo.	Name of the Student	Year/ Branch	26.04.2021		27.04.2021		28.04.2021		29.04.2021		30.04.2021		No.of Hours Attended
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	
1.	732419105001	AJITHKUMARS	II/EEE	1	1	1	1	1	1	1	1	1	1	30
2.	732419105002	DINESHM	II/EEE	1	a	1	1	1	1	1	1	1	1	27
3.	732419105004	NAVEENKUMARA	II/EEE	1	1	1	1	a	a	1	1	1	1	24
4.	732419105005	PRAVEENKUMARM	II/EEE	1	1	a	a	1	1	1	1	1	1	24
5.	732418105002	JAYAPRIYAR	III/EEE	1	1	1	1	1	1	1	1	1	1	30
6.	732417105002	ANJANAS	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
7.	732417105004	BARANIDHARANP	IV/EEE	1	1	1	1	1	1	a	a	1	1	24
8.	732417105006	KALEESWARANP	IV/EEE	1	1	1	1	a	1	1	1	1	1	27
9.	732417105007	KEERTHANAG	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
10.	732417105008	MALATHISR	IV/EEE	1	1	1	1	a	a	1	1	1	1	24
11.	732417105009	MARIAAROCKIYAMD	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
12.	732417105010	PRAKASH M	IV/EEE	1	1	a	1	1	1	1	1	1	1	27
13.	732417105011	RAMESHKUMART	IV/EEE	1	1	a	1	1	1	1	1	1	1	27

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S.No	RegNo.	Name of the Student	Year/ Branch	26.04.2021		27.04.2021		28.04.2021		29.04.2021		30.04.2021		No.of Hours Attended
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	
14.	732417105012	SATHISHKUMARR	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
15.	732417105013	SEDHUMADHAVANA	IV/EEE	1	1	1	a	1	1	1	1	1	1	27
16.	732417105014	SHANMUGAM S	IV/EEE	1	1	1	1	a	1	1	1	1	1	27
17.	732417105015	SOUNDARYAT	IV/EEE	1	1	1	1	1	a	1	1	1	1	27
18.	732417105016	SREEVENI S	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
19.	732417105019	VIGNESH S	IV/EEE	1	1	1	1	1	1	a	1	1	1	27
20.	732417105701	SEVVANDHID	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
21.	732417105702	RANJITHC	IV/EEE	1	1	1	1	1	1	1	1	1	1	30
22.	732419103001	PRAKASH V	II/CIVIL	1	1	1	1	1	a	1	1	1	1	27
23.	732419103002	VIPINH	II/CIVIL	1	1	1	1	1	a	1	1	1	1	27
24.	732417103001	BASKARANK	IV/CIVIL	1	1	a	a	1	1	1	1	1	1	24
25.	732417103002	GAYATHRIN	IV/CIVIL	1	1	1	1	a	a	1	1	1	1	24
26.	732417103003	GOWTHAMP	IV/CIVIL	1	1	1	1	1	1	1	1	1	1	30
27.	732417103004	LAVANYAM	IV/CIVIL	1	1	a	a	1	1	1	1	1	1	24
28.	732417103005	NAVEENAS	IV/CIVIL	1	1	1	1	a	1	1	1	1	1	27
29.	732417103006	NIVETHAS	IV/CIVIL	1	1	1	1	1	1	1	1	1	1	30
30.	732417103007	SANGARG	IV/CIVIL	1	1	1	1	a	a	1	1	1	1	24
31.	732417103008	SURYAN	IV/CIVIL	1	1	1	1	a	1	1	1	1	1	27

Dr.M.VIJAYAKUMAR ME., Ph.D.
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STUDENTS ATTENDANCE LIST- VALUE ADDED COURSE

S.No	RegNo.	Name of the Student	Year/ Branch	26.04.2021		27.04.2021		28.04.2021		29.04.2021		30.04.2021		No.of Hours Attended
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	
32.	732417103009	THARUNKUMARJ	IV/CIVIL	a	a	/	/	/	/	/	/	/	/	24
33.	732417103010	VAISHNAVIP	IV/CIVIL	/	/	/	/	/	a	/	/	/	/	27
34.	732417103011	VALLARASUM	IV/CIVIL	/	/	/	/	/	/	/	/	/	/	30

VAC Co-ordinator

HoD/EEE

Dr.M.VIJAYAKUMAR ME., Ph.D.
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Report on Value Added Course

Title:	Smart Grids for Buildings
Resource Person:	Er.E.Vignesh, Managing Director, Sri Eshwar Construction, Tirupur – 641605. / Er.R.R.Vickram, CFO, Sri Eshwar Construction, Tirupur – 641605.
Date of conduct from:	26.04.2021 To: 30.04.2021 Duration: 30 Hours
Organized by:	ELECTRICAL AND ELECTRONICS ENGINEERING and IQAC in association with Sri Eshwar Construction
Academic Year:	2020 – 2021 Semester: EVEN
Participant Year:	II, III, IV Year EEE No. of Students Participated: 34
Venue:	Online Gmeet link - "https://meet.google.com/ysd-owvg-yqa"

Outcome of Value Added Course (VAC)

At the end of the Course, Students can be able to

- Understanding of the fundamental concepts of smart grids, including the role of modern energy systems
- Demonstrate the ability to implement real-time monitoring and communication systems for efficient energy management
- Integrate renewable energy sources into smart grids, considering the challenges and maximizing the benefits of sustainable energy practices.
- Address cybersecurity concerns in smart grid systems, implementing strategies and best practices to secure smart grid infrastructure.
- Assess, deploy, and manage Distributed Energy Resources, contributing to decentralized energy generation

Assessment Process

- Students, who are securing more than "60" % on total score in the VAC test and secured more than "85" % in VAC attendance is eligible to receive the course completion certificate for the VAC attended
- Total Score = 0.5 *Attendance in VAC out of 100 percentage + 0.5 * Test mark in VAC out of 100 marks

No. of students successfully completed the VAC course is 34 Students based on the above assessment process.

VAC Co-ordinator | HoD/ EEE | Principal

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SASURIE INSTITUTIONS

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Vijayamangalam, Tiruppur

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that **Mr./Ms** RANJITH C IV/EEE has successfully completed the **Value Added Course** titled **"Smart Grids for Buildings"** Organized by the ***Department of Electrical and Electronics Engineering*** **in association with IQAC of Sasurie College of Engineering and Sri Eshwar Construction** from **26.04.2021** to **30.04.2021** (5 Days).

Co- ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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SASURIE COLLEGE OF ENGINEERING,
Vijayamangalam - 638 056, Tiruppur (Dt).

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DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that Mr./Ms AJITHKUMAR S II/EEE has successfully completed the **Value Added Course** titled **"Smart Grids for Buildings"** Organized by the ***Department of Electrical and Electronics Engineering*** **in association with IQAC of Sasurie College of Engineering and Sri Eshwar Construction** from **26.04.2021** to **30.04.2021** (5 Days).

Co-ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that Mr./Ms DINESH M II EEE has successfully completed the Value Added Course titled "Smart Grids for Buildings" Organized by the *Department of Electrical and Electronics Engineering* in association with IQAC of Sasurie College of Engineering and Sri Eshwar Construction from 26.04.2021 to 30.04.2021 (5 Days).

Co-ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR, ME., Ph.D.
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COLLEGE OF ENGINEERING

Vijayamangalam, Tirupur

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that Mr./Ms .....JAYAPRIYA R III/EEE.....has successfully completed the **Value Added Course** titled **"Smart Grids for Buildings"** Organized by the *Department of Electrical and Electronics Engineering* in association with IQAC of Sasurie College of Engineering and Sri Eshwar Construction from **26.04.2021** to **30.04.2021** (5 Days).

Co-ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR ME., Ph.D.
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

TEST QUESTION PAPER - VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5 days)

Duration : 30 Hours **Academic Year : 2020 -2021 /EVEN**

Date of Test : 30.04.2021

MULTIPLE CHOICE QUESTIONS (25 X 1 = 25 Marks)

Name of the Student: **Year/Sem:**

AU Register Number:

Answer all the questions:

1. What is the primary purpose of implementing smart grids in buildings?
   a. Reduce energy consumption
   b. Increase carbon emissions
   c. Enhance manual control
   d. Ignore sustainability

2. Which technology is commonly used for communication in smart grids?
   a. Morse Code
   b. Carrier Pigeons
   c. Internet of Things (IoT)
   d. Smoke signals

3. What is the role of sensors in smart grid systems?
   a. Generate electricity
   b. Monitor and collect data
   c. Control temperature
   d. Serve as light sources

4. How do smart grids contribute to energy efficiency in buildings?
   a. By promoting wasteful practices
   b. By reducing energy consumption and optimizing usage
   c. By increasing energy consumption
   d. By relying solely on traditional grids

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5. What is Demand Response in the context of smart grids?
   a. Ignoring user needs
   b. Adjusting energy consumption based on demand
   c. Disrupting grid connectivity
   d. Decreasing user control

6. Which of the following is a benefit of smart grids for building owners?
   a. Increased energy bills
   b. Reduced control
   c. Enhanced energy management and cost savings
   d. Dependence on traditional grids

7. What does the term "grid resilience" refer to in smart grids?
   a. The ability to withstand and recover from disruptions
   b. Unstable energy supply
   c. Grid inflexibility
   d. Excessive energy consumption

8. In a smart grid, what is the purpose of an Energy Management System (EMS)?
   a. To waste energy
   b. To increase energy bills
   c. To monitor and control energy usage efficiently
   d. To disrupt communication

9. What is the significance of two-way communication in smart grids?
   a. Unnecessary complexity
   b. Improved monitoring and control
   c. Reduced connectivity
   d. Lack of user engagement

10. Which renewable energy source can be integrated effectively into smart grids for buildings?
   a. Fossil Fuels
   b. Solar Power
   c. Coal
   d. Nuclear Energy

11. What role does Machine Learning play in smart grids?
   a. Increasing energy wastage
   b. Enhancing predictive analytics and decision-making
   c. Ignoring data analysis
   d. Promoting inefficiency

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12. What is the primary aim of demand-side management in smart grids?
    a. Increase energy consumption
    b. Decrease user control
    c. Optimize energy usage based on demand
    d. Ignore energy needs

13. Which factor is essential for the successful implementation of smart grids in buildings?
    a. Lack of technology integration
    b. Public resistance
    c. Collaborative efforts and stakeholder engagement
    d. Avoidance of sustainable practices

14. What is the purpose of Home Energy Management Systems (HEMS) in smart grids?
    a. Increase energy consumption
    b. Monitor and optimize energy usage in homes
    c. Disrupt communication
    d. Ignore user preferences

15. Which communication protocol is commonly used in smart grid devices?
    a. Carrier Pigeon Protocol (CPP)
    b. Zigbee
    c. Smoke Signal Standard (SSS)
    d. Morse Code Communication (MCC)

16. What is the role of Advanced Metering Infrastructure (AMI) in smart grids?
    a. Increase manual meter reading
    b. Enable real-time monitoring and communication
    c. Decrease data accuracy
    d. Ignore metering technology

17. How can smart grids contribute to sustainability in buildings?
    a. By promoting excessive energy consumption
    b. By reducing carbon emissions and optimizing resource usage
    c. By increasing waste generation
    d. By ignoring environmental impact

18. What is the significance of interoperability in smart grid components?
    a. Encourages system inefficiency
    b. Promotes seamless communication and integration
    c. Leads to increased costs
    d. Discourages collaboration

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19. Which of the following is a potential challenge in the implementation of smart grids for buildings?
   a. Lack of technology integration
   b. High user control
   c. Dependence on traditional grids
   d. Ignoring sustainability practices

20. What does the term "Grid Modernization" refer to in the context of smart grids?
   a. Maintaining outdated grid systems
   b. Upgrading and improving grid infrastructure
   c. Ignoring technological advancements
   d. Decreasing system efficiency

21. What role does Energy Storage play in smart grids?
   a. Increase energy consumption
   b. Enhance grid stability and flexibility
   c. Promote energy wastage
   d. Discourage renewable energy integration

22. How can smart grids contribute to load balancing in buildings?
   a. By promoting uneven distribution of energy
   b. By optimizing energy usage to prevent overloads
   c. By ignoring peak demand periods
   d. By increasing energy consumption during off-peak hours

23. What is the purpose of a Smart Home Energy Controller (SHEC) in smart grids?
   a. Increase energy bills
   b. Monitor and control energy usage in homes
   c. Disrupt communication channels
   d. Ignore user preferences

24. How does smart grid technology contribute to grid reliability?
   a. By promoting frequent power outages
   b. By reducing system reliability
   c. By enhancing monitoring and control for better reliability
   d. By ignoring grid stability

25. What is the role of Microgrids in smart grid systems?
   a. Increase dependency on traditional grids
   b. Enhance grid resilience and support decentralized energy generation
   c. Promote energy wastage
   d. Discourage renewable energy integration

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

TEST QUESTION ANSWER KEY - VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5 days)

Duration : 30 Hours **Academic Year : 2020 -2021 /EVEN**

Date of Test : 30.04.2021

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

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

TEST QUESTION PAPER - VALUE ADDED COURSE

"Smart Grids for Buildings"

From 26.04.2021 to 30.04.2021 (5 days)

Duration : 30 Hours **Academic Year : 2020 -2021 /EVEN**

Date of Test : 30.04.2021

MULTIPLE CHOICE QUESTIONS (25 X 1 = 25 Marks)

Name of the Student: Sakthis kumar.P **Year/Sem:** IV / VII

AU Register Number: 732417105012

Answer all the questions:

1. What is the primary purpose of implementing smart grids in buildings?
   a. Reduce energy consumption
   b. Increase carbon emissions
   c. Enhance manual control
   d. Ignore sustainability

2. Which technology is commonly used for communication in smart grids?
   a. Morse Code
   b. Carrier Pigeons
   c. Internet of Things (IoT)
   d. Smoke signals

3. What is the role of sensors in smart grid systems?
   a. Generate electricity
   b. Monitor and collect data
   c. Control temperature
   d. Serve as light sources

4. How do smart grids contribute to energy efficiency in buildings?
   a. By promoting wasteful practices
   b. By reducing energy consumption and optimizing usage
   c. By increasing energy consumption
   d. By relying solely on traditional grids

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5. What is Demand Response in the context of smart grids?
   a. Ignoring user needs
   b. Adjusting energy consumption based on demand
   c. Disrupting grid connectivity
   d. Decreasing user control

6. Which of the following is a benefit of smart grids for building owners?
   a. Increased energy bills
   b. Reduced control
   c. Enhanced energy management and cost savings
   d. Dependence on traditional grids

7. What does the term "grid resilience" refer to in smart grids?
   a. The ability to withstand and recover from disruptions
   b. Unstable energy supply
   c. Grid inflexibility
   d. Excessive energy consumption

8. In a smart grid, what is the purpose of an Energy Management System (EMS)?
   a. To waste energy
   b. To increase energy bills
   c. To monitor and control energy usage efficiently
   d. To disrupt communication

9. What is the significance of two-way communication in smart grids?
   a. Unnecessary complexity
   b. Improved monitoring and control
   c. Reduced connectivity
   d. Lack of user engagement

10. Which renewable energy source can be integrated effectively into smart grids for buildings?
    a. Fossil Fuels
    b. Solar Power
    c. Coal
    d. Nuclear Energy

11. What role does Machine Learning play in smart grids?
    a. Increasing energy wastage
    b. Enhancing predictive analytics and decision-making
    c. Ignoring data analysis
    d. Promoting inefficiency

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12. What is the primary aim of demand-side management in smart grids?
a. Increase energy consumption
b. Decrease user control
c. Optimize energy usage based on demand
d. Ignore energy needs

13. Which factor is essential for the successful implementation of smart grids in buildings?
a. Lack of technology integration
b. Public resistance
c. Collaborative efforts and stakeholder engagement
d. Avoidance of sustainable practices

14. What is the purpose of Home Energy Management Systems (HEMS) in smart grids?
a. Increase energy consumption
b. Monitor and optimize energy usage in homes
c. Disrupt communication
d. Ignore user preferences

15. Which communication protocol is commonly used in smart grid devices?
a. Carrier Pigeon Protocol (CPP)
b. Zigbee
c. Smoke Signal Standard (SSS)
d. Morse Code Communication (MCC)

16. What is the role of Advanced Metering Infrastructure (AMI) in smart grids?
a. Increase manual meter reading
b. Enable real-time monitoring and communication
c. Decrease data accuracy
d. Ignore metering technology

17. How can smart grids contribute to sustainability in buildings?
a. By promoting excessive energy consumption
b. By reducing carbon emissions and optimizing resource usage
c. By increasing waste generation
d. By ignoring environmental impact

18. What is the significance of interoperability in smart grid components?
a. Encourages system inefficiency
b. Promotes seamless communication and integration
c. Leads to increased costs
d. Discourages collaboration

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19. Which of the following is a potential challenge in the implementation of smart grids for buildings?
a. Lack of technology integration
b. High user control
c. Dependence on traditional grids
d. Ignoring sustainability practices

20. What does the term "Grid Modernization" refer to in the context of smart grids?
a. Maintaining outdated grid systems
b. Upgrading and improving grid infrastructure
c. Ignoring technological advancements
d. Decreasing system efficiency

21. What role does Energy Storage play in smart grids?
a. Increase energy consumption
b. Enhance grid stability and flexibility
c. Promote energy wastage
d. Discourage renewable energy integration

22. How can smart grids contribute to load balancing in buildings?
a. By promoting uneven distribution of energy
b. By optimizing energy usage to prevent overloads
c. By ignoring peak demand periods
d. By increasing energy consumption during off-peak hours

23. What is the purpose of a Smart Home Energy Controller (SHEC) in smart grids?
a. Increase energy bills
b. Monitor and control energy usage in homes
c. Disrupt communication channels
d. Ignore user preferences

24. How does smart grid technology contribute to grid reliability?
a. By promoting frequent power outages
b. By reducing system reliability
c. By enhancing monitoring and control for better reliability
d. By ignoring grid stability

25. What is the role of Microgrids in smart grid systems?
a. Increase dependency on traditional grids
b. Enhance grid resilience and support decentralized energy generation
c. Promote energy wastage
d. Discourage renewable energy integration

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				No. of Hours Attended	Attendance Score (100) (A)	No. of Correct Answers	MCQ Score (100) (B)	
1.	732419105001	AJITH KUMAR S	II/EEE	30	100	21	84	92
2.	732419105002	DINESH M	II/EEE	27	90	21	84	87
3.	732419105004	NAVEENKUMAR A	II/EEE	24	80	20	80	80
4.	732419105005	PRAVEEN KUMAR M	II/EEE	24	80	20	80	80
5.	732418105002	JAYAPRIYA R	III/EEE	30	100	20	80	90
6.	732417105002	ANJANA S	IV/EEE	30	100	19	76	88
7.	732417105004	BARANIDHARAN P	IV/EEE	24	80	20	80	80
8.	732417105006	KALEESWARAN P	IV/EEE	27	90	19	76	83
9.	732417105007	KEERTHANA G	IV/EEE	30	100	19	76	88
10.	732417105008	MALATHI S R	IV/EEE	24	80	20	80	80
11.	732417105009	MARIA AROCKIYAM D	IV/EEE	30	100	21	84	92
12.	732417105010	PRAKASH M	IV/EEE	27	90	21	84	87
13.	732417105011	RAMESH KUMAR T	IV/EEE	27	90	19	76	83

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14.	732417105012	SATHISHKUMAR R	IV/EEE	30	100	20	80	90
15.	732417105013	SEDHUMADHAVAN A	IV/EEE	27	90	19	76	83
16.	732417105014	SHANMUGAM S	IV/EEE	27	90	19	76	83
17.	732417105015	SOUNDARYA T	IV/EEE	27	90	18	72	81
18.	732417105016	SREEVENI S	IV/EEE	30	100	19	76	88
19.	732417105019	VIGNESH S	IV/EEE	27	90	19	76	83
20.	732417105701	SEVVANDHI D	IV/EEE	30	100	18	72	86
21.	732417105702	RANJITH C	IV/EEE	30	100	21	84	92
22.	732419103001	PRAKASH V	II/CIVIL	27	90	21	84	87
23.	732419103002	VIPIN H	II/CIVIL	27	90	21	84	87
24.	732417103001	BASKARAN K	IV/CIVIL	24	80	20	80	80
25.	732417103002	GAYATHRI N	IV/CIVIL	24	80	20	80	80
26.	732417103003	GOWTHAM P	IV/CIVIL	30	100	20	80	90
27.	732417103004	LAVANYA M	IV/CIVIL	24	80	20	80	80
28.	732417103005	NAVEENA S	IV/CIVIL	27	90	19	76	83
29.	732417103006	NIVETHA S	IV/CIVIL	30	100	19	76	88
30.	732417103007	SANGAR G	IV/CIVIL	24	80	20	80	80
31.	732417103008	SURYA N	IV/CIVIL	27	90	19	76	83

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				No. of Hours Attended	Attendance Score (100) (A)	No. of Correct Answers	MCQ Score (100) (B)	
32.	732417103009	THARUNKUMAR J	IV/CIVIL	24	80	20	80	80
33.	732417103010	VAISHNAVI P	IV/CIVIL	27	90	19	76	83
34.	732417103011	VALLARASU M	IV/CIVIL	30	100	19	76	88

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HOD/EEE