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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

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:	**INTERNET OF THINGS (IoT) APPLICATIONS IN SMART GRIDS**				
Resource Person:	M.Ramasamy, Trainer, Infoziant Systems Pvt Ltd, Chennai.		Mr. Tony, Manager, Infoziant Systems Pvt Ltd, Chennai.		
Dat e of conduct from:	**10.12.2018**	**To:**	**14.12.2018**	**Duration:**	**30Hours**
Organized Department:	**ELECTRICAL AND ELECTRONICS ENGINEERING**				
Participant Year:	**2/3/4**	**Semester:**	**EVEN**	**No. of Students Registered:**	**53**
Venue:	**Lecture hall of II & III year EEE**				

TABLE OF CONTENT

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SASURIE

COLLEGE OF ENGINEERING

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SASURIE INSTITUTIONS

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Ref: SCE / EEE /Students / VAC / 2018 – 2019 / EVEN 03.12.2018

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 Infoziant Systems Pvt Ltd, is organizing a **Value Added Course (VAC)** for the students of II, III and IV year of EEE on the title **"Internet of Things (IoT) applications in smart grids"** from **10.12.2018** to **14.12.2018**. 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	M.Ramasamy, Trainer, Infoziant Systems Pvt Ltd, Chennai.	Mr. Tony, Manager, Infoziant Systems Pvt Ltd, Chennai.
Venue	**Lecture hall of II & III year EEE**	

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
5. II, III & IV-Year EEE Students
6. EEE Notice Board
7. Department File

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

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Ref: SCE / EEE /Students / VAC / 2018 – 2019 / EVEN 03.12.2018

SYLLABUS - VALUE ADDED COURSE

"Internet of Things (IoT) applications in smart grids"

From 10.12.2018 to 14.12.2018 (5 days)

Duration : 30 Hours **Academic Year : 2018 -2019 /EVEN**

S.No.	Topics Covered	Duration (In Hours)	Date
1	Introduction to IoT and Smart Grids	3	10.12.2018
2	IoT Technologies for Smart Grids	3	10.12.2018
3	Data Analytics in Smart Grids	3	11.12.2018
4	Cybersecurity Challenges in IoT for Smart Grids	3	11.12.2018
5	Smart Metering and Advanced Metering Infrastructure (AMI)	3	12.12.2018
6	Distributed Energy Resources (DERs) and IoT	3	12.12.2018
7	Grid Automation and Control Systems	3	13.12.2018
8	Demand Response and IoT	3	13.12.2018
9	IoT for Predictive Maintenance	3	14.12.2018
10	Regulatory and Policy Aspects	3	14.12.2018
	Total Hours	30	-

After successful completion of 30 Hours VAC, the assessment test for the VAC titled "Internet of Things (IoT) applications in smart grids" will be conducted on 14.12.2018.

VAC Coordinator

HoD/EEE

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

STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

"Internet of Things (IoT) applications in smart grids"

From 10.12.2018 to 14.12.2018 (5 days)

Duration : 30 Hours **Academic Year : 2018 -2019 /EVEN**

S.No.	Reg No.	Name of the Student	Year / Branch
1.	732417105002	ANJANA S	II/EEE
2.	732417105004	BARANIDHARAN P	II/EEE
3.	732417105006	KALEESWARAN P	II/EEE
4.	732417105007	KEERTHANA G	II/EEE
5.	732417105008	MALATHI S R	II/EEE
6.	732417105009	MARIA AROCKIYAM D	II/EEE
7.	732417105010	PRAKASH M	II/EEE
8.	732417105011	RAMESH KUMAR T	II/EEE
9.	732417105012	SATHISHKUMAR R	II/EEE
10.	732417105013	SEDHUMADHAVAN A	II/EEE
11.	732417105014	SHANMUGAM S	II/EEE
12.	732417105015	SOUNDARYA T	II/EEE
13.	732417105016	SREEVENI S	II/EEE
14.	732417105019	VIGNESH S	II/EEE
15.	732417105701	SEVVANDIII D	II/EEE
16.	732417105702	RANJITH C	II/EEE
17.	732416105001	AMSAVENI S	III/EEE
18.	732416105002	ARIHARAN P	III/EEE
19.	732416105003	BASKAR S	III/EEE
20.	732416105004	BOOPATHI S	III/EEE
21.	732416105005	DHARANI D	III/EEE
22.	732416105006	HARISH D	III/EEE
23.	732416105007	KALLALAHAR K S	III/EEE
24.	732416105009	KARTHIKEYAN V	III/EEE
25.	732416105010	KIRUBHAKARAN R	III/EEE
26.	732416105011	NAVEENKUMAR M	III/EEE
27.	732416105012	NAVEENKUMAR R	III/EEE
28.	732416105013	PAVITHRA M	III/EEE
29.	732416105014	RAJESHKUMAR M	III/EEE
30.	732416105015	TAMILSELVAM G	III/EEE

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SASURIE COLLEGE OF ENGINEERING

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STUDENTS PARTICIPATION LIST - VALUE ADDED COURSE

S.No.	Reg No.	Name of the Student	Year / Branch
31.	732416105016	VANMATHI P	III/EEE
32.	732416105017	VIDHYA V	III/EEE
33.	732416105301	AJITH M	III/EEE
34.	732416105302	GUNASEKARAN S	III/EEE
35.	732416105501	CHANDHRAKUMAR M	III/EEE
36.	732415105001	ATHIRA K S	IV/EEE
37.	732415105002	BHUVANESHWARI S	IV/EEE
38.	732415105003	DEEPA S	IV/EEE
39.	732415105004	DEVARAJ K R	IV/EEE
40.	732415105005	GOWSSIKKUMAR A	IV/EEE
41.	732415105006	JANAKI PRIYA M	IV/EEE
42.	732415105007	MANIKANDAN S	IV/EEE
43.	732415105008	MANIMEGALAI S	IV/EEE
44.	732415105009	OVIYA S	IV/EEE
45.	732415105010	PAVITHRA B	IV/EEE
46.	732415105011	PAVITHRA V	IV/EEE
47.	732415105012	RAGU P	IV/EEE
48.	732415105013	RAJADURAI T	IV/EEE
49.	732415105014	RAMYA S	IV/EEE
50.	732415105015	SUGANYA R	IV/EEE
51.	732415105016	VALLINAYAKI K	IV/EEE
52.	732415105304	SHANMUGA SUNDARAM S	IV/EEE
53.	732415105501	MANIKANDAN K	IV/EEE

VAC Coordinator

HoD/EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

STUDENTS ATTENDANCE LIST - VALUE ADDED COURSE

"Internet of Things (IoT) applications in smart grids"

From 10.12.2018 to 14.12.2018 (5 days)

Duration : 30 Hours **Academic Year : 2018 -2019/ EVEN**

S.No	Reg No.	Name of the Student	Year/ Branch	10.12.2018		11.12.2018		12.12.2018		13.12.2018		14.12.2018		No. of Hours Attended	Signature of the Student
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
1.	732417105002	ANJANA S	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
2.	732417105004	BARANIDHARAN P	II/EEE	/	/	/	a	/	/	/	/	/	/	27	
3.	732417105006	KALEESWARAN P	II/EEE	/	/	/	/	a	a	/	/	/	/	24	
4.	732417105007	KEERTHANA G	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
5.	732417105008	MALATHI S R	II/EEE	/	/	a	a	/	/	/	/	/	/	24	
6.	732417105009	MARIA AROCKIYAM D	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
7.	732417105010	PRAKASH M	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
8.	732417105011	RAMESH KUMAR T	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
9.	732417105012	SATHISHKUMAR R	II/EEE	/	a	/	/	/	/	/	/	/	/	27	
10.	732417105013	SEDHUMADHAVAN A	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
11.	732417105014	SHANMUGAM S	II/EEE	/	/	a	a	/	/	/	/	/	/	24	
12.	732417105015	SOUNDARYA T	II/EEE	/	/	/	/	/	/	/	/	/	/	30	
13.	732417105016	SREEVENI S	II/EEE	/	/	/	/	a	a	/	/	/	/	24	

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STUDENTS ATTENDANCE LIST - VALUE ADDED COURSE

S.No	Reg No.	Name of the Student	Year/ Branch	10.12.2018		11.12.2018		12.12.2018		13.12.2018		14.12.2018		No. of Hours Attended	Signature of the Student
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
14.	732417105019	VIGNESH S	II/EEE	/	/	/	/	/	/	/	/	/	/	30	S. Vignesh
15.	732417105701	SEVVANDHI D	II/EEE	/	/	a	/	/	/	/	/	/	/	27	Sevvanthi
16.	732417105702	RANJITH C	II/EEE	a	a	/	/	/	/	/	/	/	/	24	Ranjith C
17.	732416105001	AMSAVENI S	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Amsaveni
18.	732416105002	ARIHARAN P	III/EEE	/	/	/	/	a	a	/	/	/	/	24	ARunkaran P
19.	732416105003	BASKAR S	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Baskar
20.	732416105004	BOOPATHI S	III/EEE	/	/	/	/	/	/	a	a	/	/	24	S. Boopathi
21.	732416105005	DHARANI D	III/EEE	/	a	/	/	/	/	/	/	/	/	27	Dharani
22.	732416105006	HARISH D	III/EEE	/	/	/	/	/	/	/	/	/	/	30	D. Harish.
23.	732416105007	KALLALAHAR K S	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Kallalahar
24.	732416105009	KARTHIKEYAN V	III/EEE	/	/	a	a	/	/	/	/	/	/	24	V. Karthikeyan
25	732416105010	KIRUBHAKARAN R	III/EEE	/	/	/	a	/	/	/	/	/	/	27	Kirubh
26	732416105011	NAVEENKUMAR M	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Naveen
27.	732416105012	NAVEENKUMAR R	III/EEE	/	/	/	/	/	a	/	/	/	/	27	Kumar
28.	732416105013	PAVITHRA M	III/EEE	/	/	/	/	/	/	/	/	/	/	30	M. Pavithra
29.	732416105014	RAJESHKUMAR M	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Rajesh
30.	732416105015	TAMILSELVAM G	III/EEE	/	/	/	/	/	/	/	a	/	/	27	Tamilselvam
31.	732416105016	VANMATHI P	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Vanmathi

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STUDENTS ATTENDANCE LIST - VALUE ADDED COURSE

S.No	Reg No.	Name of the Student	Year/ Branch	10.12.2018		11.12.2018		12.12.2018		13.12.2018		14.12.2018		No. of Hours Attended	Signature of the Student
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
32.	732416105017	VIDHYA V	III/EEE	/	/	/	/	/	/	/	/	/	/	30	Vidhya
33.	732416105301	AJITH M	III/EEE	/	/	/	/	/	/	a	a	/	/	24	Ajith
34.	732416105302	GUNASEKARAN S	III/EEE	/	/	/	/	/	/	/	/	/	/	30	S.Gunasekaran.
35.	732416105501	CHANDHRAKUMAR M	III/EEE	a	a	/	/	/	/	/	/	/	/	24	Chandru. M
36.	732415105001	ATHIRA K S	IV/EEE	/	/	a	/	/	/	/	/	/	/	27	Athira K
37.	732415105002	BHUVANESHWARI S	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Bhuvaneswari
38.	732415105003	DEEPA S	IV/EEE	/	/	/	/	/	a	/	/	/	/	27	S.Deepa
39.	732415105004	DEVARAJ K R	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Devaraj. KR
40.	732415105005	GOWSSIKKUMAR A	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Gowsik
41.	732415105006	JANAKI PRIYA M	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Janaki Priya
42.	732415105007	MANIKANDAN S	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Manikandan.S
43.	732415105008	MANIMEGALAI S	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Manimegalai
44.	732415105009	OVIYA S	IV/EEE	/	a	/	/	/	/	/	/	/	/	27	Oviya S
45.	732415105010	PAVITHRA B	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Pavithra B
46.	732415105011	PAVITHRA V	IV/EEE	/	/	/	/	a	a	/	/	/	/	24	Pavithra V
47.	732415105012	RAGU P	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	Ragu.P
48.	732415105013	RAJADURAI T	IV/EEE	/	/	a	a	/	/	/	/	/	/	24	Rajadurai
49.	732415105014	RAMYA S	IV/EEE	/	/	/	/	/	/	/	/	/	/	30	S.Ramya

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STUDENTS ATTENDANCE LIST - VALUE ADDED COURSE

S.No	Reg No.	Name of the Student	Year/ Branch	10.12.2018		11.12.2018		12.12.2018		13.12.2018		14.12.2018		No. of Hours Attended	Signature of the Student
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
50.	732415105015	SUGANYA R	IV/EEE	1	1	1	1	1	1	1	1	1	1	30	Suganya R
51	732415105016	VALLINAYAKI K	IV/EEE	1	1	a	a	1	1	1	1	1	1	24	Vallinayaki
52.	732415105304	SHANMUGA SUNDARAM S	IV/EEE	1	1	1	1	1	1	1	a	1	1	27	Shanmugam
53.	732415105501	MANIKANDAN K	IV/EEE	1	1	1	1	1	1	1	1	1	1	30	Manikandan K.

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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AC Coordinator

HoD/EEE

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Report on Value Added Course

Title:	**Internet of Things (IoT) applications in smart grids**				
Resource Person:	**M.Ramasamy, Trainer, Infoziant Systems Pvt Ltd, Chennai.**		**Mr. Tony, Manager, Infoziant Systems Pvt Ltd, Chennai.**		
Date of conduct from :	**10.12.2018**	To:	**14.12.2018**	Duration:	**30 Hours**
Organized by :	**ELECTRICAL AND ELECTRONICS ENGINEERING and IQAC in association with Infoziant Systems Pvt Ltd**				
Academic Year:	**2018 – 2019**		Semester:		**EVEN**
Participant Year:	**II, III, IV Year EEE**		No. of Students Participated :		**53**
Venue:	**Lecture hall of II & III year EEE**				

Outcome of Value Added Course (VAC)

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

- Gain a foundational understanding of IoT concepts and their application in the context of smart grids.
- Acquire skills in utilizing data analytics to optimize smart grid operations and make informed decisions based on IoT-generated data.
- Understand the integration of Distributed Energy Resources (DERs) with IoT technologies and develop strategies for managing and controlling DERs in a smart grid environment.
- Acquire the skills to implement demand response programs using IoT, and engage consumers in energy conservation through IoT-enabled devices.
- Gain knowledge of current regulatory frameworks related to IoT in smart grids and analyze policy considerations for fostering the adoption of IoT in the energy sector.

Assessment Process

- 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
- 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 **53 Students** based on the above assessment process.

VAC Co-ordinator **HoD/ EEE** **Principal**

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Vijayamangalam, Tiruppur.

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that **Mr./Ms** DHARANI D III / EEE has successfully completed the **Value Added Course** titled "**Renewable Energy Integration and Grid Stability**" Organized by the *Department of Electrical and Electronics Engineering* **in association with IQAC of Sasurie College of Engineering and KLG Systel Limited,Chennai** from **18.06.2018 to 22.06.2018**(5 Days).

Co-ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR ME., Ph.D.,
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Vijayamangalam, Tiruppur.

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that **Mr./Ms** ..... **TAMILSELVAM III/EEE** ..... has successfully completed the **Value Added Course** titled **"Internet of Things (IoT)"** Organized by the ***Department of Electrical and Electronics Engineering*** **in association with IQAC of Sasurie College of Engineering and Infoziant Systems Pvt Ltd,** from **10.12.2018** to **14.12.2018** (5 Days).

Co-ordinator **Head of the Department** **Principal**

Dr.M.VIJAYAKUMAR M.E., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING
Vijayamangalam - 638 056, Tirupur (Dt).

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Vijayamangalam, Tirupur

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that **Mr./Ms** BOOPATHI S III/EEE has successfully completed the **Value Added Course** titled **"Internet of Things (IoT)"** Organized by the *Department of Electrical and Electronics Engineering* **in association with IQAC of Sasurie College of Engineering and Infoziant Systems Pvt Ltd,** from 10.12.2018 to **14.12.2018** (5 Days).

Co-ordinator

Head of the Department

Principal

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
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Vijayamangalam, Tiruppur.

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that **Mr./Ms** KALEESWARAN P II/EEE has successfully completed the **Value Added Course** titled **"Internet of Things (IoT)"** Organized by the ***Department of Electrical and Electronics Engineering*** **in association with IQAC of Sasurie College of Engineering and Infoziant Systems Pvt Ltd,** from **10.12.2018** to **14.12.2018** (5 Days).

Co-ordinator **Head of the Department** **Principal**

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

SASURIE
COLLEGE OF ENGINEERING

DEPARTMENT OF OF ELECTRICAL AND ELECTRONICS ENGINEERING

Certificate of Participation

This is to certify that Mr./Ms ..... VIGNESH S ..... II/EEE ..... has successfully completed the Value Added Course titled "Internet of Things (IoT)" Organized by the *Department of Electrical and Electronics Engineering* in association with IQAC of Sasurie College of Engineering and Infoziant Systems Pvt Ltd. from 10.12.2018 to 14.12.2018 (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

"Internet of Things (IoT) applications in smart grids"

From 10.12.2018 to 14.12.2018 (5 days)

Duration : 30 Hours **Academic Year : 2018 -2019 /EVEN**

Date of Test : 14.12.2018

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 focus of IoT in the context of smart grids?
   a) Enhancing cybersecurity
   b) Improving energy efficiency
   c) Implementing grid automation
   d) Optimizing communication protocols

2. Which technology is commonly used for sensors in smart grid applications?
   a) Bluetooth
   b) RFID
   c) Zigbee
   d) NFC

3. What role does data analytics play in smart grids?
   a) Enhancing cybersecurity
   b) Real-time monitoring
   c) Grid automation
   d) Communication protocols

4. What is AMI in the context of smart grids?
   a) Automated Maintenance Infrastructure
   b) Advanced Metering Infrastructure
   c) Adaptive Monitoring Integration
   d) Accelerated Maintenance Integration

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5. How does IoT contribute to demand response in smart grids?
   a) Enhancing sensor technologies
   b) Implementing predictive maintenance
   c) Engaging consumers in energy conservation
   d) Optimizing power flow

6. What is the purpose of grid automation in smart grids?
   a) Enhancing data analytics
   b) Improving energy efficiency
   c) Optimizing power flow
   d) Real-time monitoring

7. What are DERs in the context of smart grids?
   a) Digital Energy Regulators
   b) Distributed Energy Resources
   c) Dynamic Energy Reactors
   d) Digital Electricity Routers

8. How does IoT contribute to predictive maintenance in smart grids?
   a) Real-time monitoring
   b) Grid automation
   c) Sensor technologies
   d) Demand response programs

9. Which communication protocol is commonly used for IoT devices in smart grids?
   a) HTTP
   b) MQTT
   c) FTP
   d) DNS

10. What is a key consideration in addressing cybersecurity challenges in IoT for smart grids?
    a) Data analytics
    b) Policy considerations
    c) Real-time monitoring
    d) Predictive maintenance

11. In the context of smart grids, what does AMI stand for?
    a) Advanced Metering Integration
    b) Automated Maintenance Infrastructure
    c) Advanced Metering Infrastructure
    d) Adaptive Monitoring Integration

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12. What is the primary goal of integrating DERs with IoT in smart grids?
a) Enhancing cybersecurity
b) Real-time monitoring
c) Improving energy efficiency
d) Managing and controlling DERs

13. What technology is commonly associated with real-time monitoring in smart grids?
a) Zigbee
b) Bluetooth
c) RFID
d) NFC

14. How does IoT contribute to optimizing power flow in smart grids?
a) Grid automation
b) Predictive maintenance
c) Demand response programs
d) Communication protocols

15. What is the significance of smart metering in the context of smart grids?
a) Enhancing data analytics
b) Improving energy efficiency
c) Real-time monitoring
d) Predictive maintenance

16. What is the primary purpose of implementing demand response programs in smart grids?
a) Enhancing sensor technologies
b) Engaging consumers in energy conservation
c) Optimizing power flow
d) Improving cybersecurity

17. Which of the following is NOT a common sensor technology used in smart grids?
a) Zigbee
b) RFID
c) Bluetooth
d) GPS

18. What is the primary objective of implementing grid automation in smart grids?
a) Real-time monitoring
b) Enhancing data analytics
c) Optimizing power flow
d) Improving cybersecurity

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19. In the context of IoT for smart grids, what is the focus of predictive maintenance?
a) Real-time monitoring
b) Enhancing sensor technologies
c) Reducing downtime and improving reliability
d) Communication protocols

20. What role does data analytics play in optimizing smart grid operations?
a) Managing and controlling DERs
b) Enhancing cybersecurity
c) Real-time monitoring
d) Improving energy efficiency

21. What is the primary function of communication protocols in IoT for smart grids?
a) Grid automation
b) Optimizing power flow
c) Facilitating data exchange between devices
d) Predictive maintenance

22. How can IoT be utilized to engage consumers in energy conservation?
a) Implementing grid automation
b) Real-time monitoring
c) Demand response programs
d) Enhancing sensor technologics

23. What is the primary purpose of distributed energy resources (DERs) in smart grids?
a) Improving cybersecurity
b) Enhancing data analytics
c) Optimizing power flow
d) Integrating renewable energy sources

24. What aspect of IoT for smart grids focuses on addressing vulnerabilities and cyber threats?
a) Predictive maintenance
b) Cybersecurity challenges
c) Demand response programs
d) Real-time monitoring

25. What is the primary focus of regulatory frameworks related to IoT in smart grids?
a) Enhancing sensor technologies
b) Policy considerations
c) Real-time monitoring
d) Improving energy efficiency

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

VAC Coordinator

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Duration : 30 Hours **Academic Year : 2018-2019 /EVEN**

Date of Test : 14.12.2018

MULTIPLE CHOICE QUESTIONS (25 X 1 = 25 Marks)

Name of the Student: Shanmugam S **Year/Sem:** II | IV

AU Register Number: 732417105014

Answer all the questions:

1. What is the primary focus of IoT in the context of smart grids?
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d) Communication protocols

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c) Real-time monitoring
d) Improving energy efficiency

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b) Optimizing power flow
c) Facilitating data exchange between devices
d) Predictive maintenance

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a) Implementing grid automation
b) Real-time monitoring
c) Demand response programs
d) Enhancing sensor technologies

23. What is the primary purpose of distributed energy resources (DERs) in smart grids?
a) Improving cybersecurity
b) Enhancing data analytics
c) Optimizing power flow
d) Integrating renewable energy sources

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a) Predictive maintenance
b) Cybersecurity challenges
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d) Real-time monitoring

25. What is the primary focus of regulatory frameworks related to IoT in smart grids?
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b) Policy considerations
c) Real-time monitoring
d) Improving energy efficiency

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S.No	Reg No.	Name of the Student	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL Score (100) (50% of A + 50% of B)
				No. of Hours Attended	Attendance Score (100) (A)	No. of Correct Answers	MCQ Score (100) (B)	
1.	732417105002	ANJANA S	II/EEE	30	100	19	76	88
2.	732417105004	BARANIDHARAN P	II/EEE	27	90	19	76	83
3.	732417105006	KALEESWARAN P	II/EEE	24	80	21	84	82
4.	732417105007	KEERTHANA G	II/EEE	30	100	18	72	86
5.	732417105008	MALATHI S R	II/EEE	24	80	20	80	80
6.	732417105009	MARIA AROCKIYAM D	II/EEE	30	100	19	76	88
7.	732417105010	PRAKASH M	II/EEE	30	100	19	76	88
8.	732417105011	RAMESH KUMAR T	II/EEE	30	100	18	72	86
9.	732417105012	SATHISHKUMAR R	II/EEE	27	90	19	76	83
10.	732417105013	SEDHUMADHAVAN A	II/EEE	30	100	19	76	88
11.	732417105014	SHANMUGAM S	II/EEE	24	80	20	80	80
12.	732417105015	SOUNDARYA T	II/EEE	30	100	19	76	88
13.	732417105016	SREEVENI S	II/EEE	24	80	21	84	82

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				No. of Hours Attended	Attendance Score (100) (A)	No. of Correct Answers	MCQ Score (100) (B)	
14.	732417105019	VIGNESH S	II/EEE	30	100	20	80	90
15.	732417105701	SEVVANDHI D	II/EEE	27	90	19	76	83
16.	732417105702	RANJITH C	II/EEE	24	80	21	84	82
17.	732416105001	AMSAVENI S	III/EEE	30	100	21	84	92
18.	732416105002	ARIHARAN P	III/EEE	24	80	20	80	80
19.	732416105003	BASKAR S	III/EEE	30	100	19	76	88
20.	732416105004	BOOPATHI S	III/EEE	24	80	20	80	80
21.	732416105005	DHARANI D	III/EEE	27	90	19	76	83
22.	732416105006	HARISH D	III/EEE	30	100	19	76	88
23.	732416105007	KALLALAHAR K S	III/EEE	30	100	20	80	90
24.	732416105009	KARTHIKEYAN V	III/EEE	24	80	21	84	82
25.	732416105010	KIRUBHAKARAN R	III/EEE	27	90	18	72	81
26.	732416105011	NAVEENKUMAR M	III/EEE	30	100	21	84	92
27.	732416105012	NAVEENKUMAR R	III/EEE	27	90	19	76	83
28.	732416105013	PAVITHRA M	III/EEE	30	100	19	76	88
29.	732416105014	RAJESHKUMAR M	III/EEE	30	100	21	84	92
30.	732416105015	TAMILSELVAM G	III/EEE	27	90	19	76	83
31.	732416105016	VANMATHI P	III/EEE	30	100	19	76	88
32.	732416105017	VIDHYA V	III/EEE	30	100	18	72	86

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				No. of Hours Attended	Attendance Score (100) (A)	No. of Correct Answers	MCQ Score (100) (B)	
33.	732416105301	AJITH M	III/EEE	24	80	20	80	80
34.	732416105302	GUNASEKARAN S	III/EEE	30	100	20	80	90
35.	732416105501	CHANDHRAKUMAR M	III/EEE	24	80	21	84	82
36.	732415105001	ATHIRA K S	IV/EEE	27	90	18	72	81
37.	732415105002	BHUVANESHWARI S	IV/EEE	30	100	21	84	92
38.	732415105003	DEEPA S	IV/EEE	27	90	19	76	83
39.	732415105004	DEVARAJ K R	IV/EEE	30	100	19	76	88
40.	732415105005	GOWSSIKKUMAR A	IV/EEE	30	100	21	84	92
41.	732415105006	JANAKI PRIYA M	IV/EEE	30	100	19	76	88
42.	732415105007	MANIKANDAN S	IV/EEE	30	100	19	76	88
43.	732415105008	MANIMEGALAI S	IV/EEE	30	100	18	72	86
44.	732415105009	OVIYA S	IV/EEE	27	90	19	76	83
45.	732415105010	PAVITHRA B	IV/EEE	30	100	19	76	88
46.	732415105011	PAVITHRA V	IV/EEE	24	80	20	80	80
47.	732415105012	RAGU P	IV/EEE	30	100	19	76	88
48.	732415105013	RAJADURAI T	IV/EEE	24	80	21	84	82
49.	732415105014	RAMYA S	IV/EEE	30	100	19	76	88

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50	732415105015	SUGANYA R	IV/EEE	30	100	20	80	90
51	732415105016	VALLINAYAKI K	IV/EEE	24	80	21	84	82
52	732415105304	SHANMUGA SUNDAR	IV/EEE	27	90	19	76	83
53	732415105501	MANIKANDAN K	IV/EEE	30	100	19	76	88

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VAC Coordinator

HOD/EEE