



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

KeyIndicator-2.3.Teaching-Learning Process(40)

2022-2023

PARTICIPATIVE LEARNING

**ELECTRONICS AND COMMUNICATION ENGINEERING and
ME (VLSI DESIGN)**

Activity	Number of Students Attended	Page No.
Value Added Course(VAC)	94	3
TOTAL STUDENTS ATTENDED	94	-



Criteria2

Teaching-Learning and Evaluation

350

KeyIndicator-2.3.Teaching-Learning Process(40)

2022-2023

**ELECTRONICS AND COMMUNICATION ENGINEERING and
ME (VLSI DESIGN)**

PARTICIPATIVE LEARNING

VALUE ADDED COURSE



Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
NAAC Accredited, 2(F) Status Institution by UGC



Department of Electronics and Communication Engineering

Academic Year 2022-2023 –ODD Semester

25.01.2023

DEPARTMENT CIRCULAR

Department of Electronics and communication Engineering and IQAC of IGCE in association with Hitakey Infosys, is going to organize Value Added Course for all Second, Third and Final year students on “**INTRODUCTION TO ROBOTICS**” from 30.01.2023 to 03.02.2023. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

Resource Person Detail	Mrs. Shalom Jerlin, Technical Head, Hitakey Infosys, Trichy
Venue	DSP Lab, IGCE


HOD/ECE


PRINCIPAL

Cc:

- Principal office
- IQAC Co-Ordinator
- Class In charges - II, III & IV-Year
- II, III & IV-Year ECE Students
- Office File
- 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

"INTRODUCTION TO ROBOTICS"

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Basic concepts- Definition and origin of robotics , different types of robotics	3	30.01.2023
2	Asimov's laws of robotics , dynamic stabilization of robots.	3	30.01.2023
3	Power sources, sensors and actuators - Hydraulic, pneumatic and electric drives: Design and control issues	3	31.01.2023
4	Variable speed arrangements – path determination	3	31.01.2023
5	Micro machines in robotics , machine vision – ranging laser – acoustic – magnetic, fiber optic and tactile sensors.	3	01.02.2023
6	Manipulators and grippers differential motion	3	01.02.2023
7	Construction of manipulators – manipulator dynamics and force control	3	02.02.2023
8	Electronic and pneumatic manipulator control circuits – end effectors	3	02.02.2023
9	various types of grippers , Design considerations	3	01.02.2023
10	Forward Kinematics Forward solution - Denavit Hartenberg procedure.	3	01.02.2023
11	Exam	1	01.02.2023
Total Hours (Excluding Exam)		30	-

G. Keerthi
VAC Coordinator

M. Bharathi
HOD/ECE

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

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Value Added Course

"INTRODUCTION TO ROBOTICS"

STUDENTS PARTICIPATION LIST

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
1	811219106001	Dayana P	IV ECE
2	811219106002	Devika K	IV ECE
3	811219106003	Dinesh J	IV ECE
4	811219106004	Mohana Sundaram K	IV ECE
5	811219106005	Ravikumar B	IV ECE
6	811219106006	Santhanaraj A	IV ECE
7	811219106008	Srikanth M	IV ECE
8	811219106009	Surendran S	IV ECE
9	811219106010	Surya V	IV ECE
10	811219106011	Swetha K	IV ECE
11	811219106301	Yuvashree S	IV ECE
12	811219106701	Vijayalakshmi V	IV ECE
13	811219106702	Ponnarasu S	IV ECE
14	811220106006	Banu priya G	III ECE
15	811220106008	Bharathidasan C	III ECE
16	811220106018	J.Jancy	III ECE
17	811220106019	Jeevasen N	III ECE
18	811220106021	Kamaraj.S	III ECE
19	811220106022	C.karthick	III ECE
20	811220106023	S.Karthika	III ECE
21	811220106025	Kishore R	III ECE
22	811220106026	M. Kishore kumar	III ECE
23	811220106028	Mancy.E	III ECE
24	811220106031	Pradhap.J	III ECE
25	811220106032	Prasanna.J	III ECE
26	811220106033	Preethika.M	III ECE
27	811220106034	Premalatha.M	III ECE
28	811220106037	Shri Harini Priya B	III ECE
29	811220106038	M.Snega	III ECE
30	811220106039	N.Sobi amirtha	III ECE
31	811220106041	Sunil Kumar B	III ECE
32	811220106042	Susila N	III ECE
33	811220106049	Yoga priya.R	III ECE
34	811221106001	Aarth.S	III ECE


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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
35	811221106003	Arockia Jenifer.M	II ECE
36	811221106005	Deepalakshmi.S	II ECE
37	811221106008	Dhinesh babu.C	II ECE
38	811221106012	Jaya Kamakshe Radha.S.P	II ECE
39	811221106022	Parkavi.S	II ECE
40	811221106024	Premkumer.S	II ECE
41	811221106033	Thamilarasi.C	II ECE
42	811221106034	Thrisha.S	II ECE
43	811221106035	Veerakumar.R	II ECE
44	811221106036	Vellaisamy.S	II ECE
45	811221106037	Victorraj.S	II ECE
46	811221106040	Vishal.V	II ECE
47	811221106301	Om Parkash.R	II ECE

G. Keerthi
VAC Coordinator

M. Balakrishnan
HOD/ECE

G. Balakrishnan
Dr. G. Balakrishnan, M.E., Ph.D.,
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REPORT ON VALUE ADDED COURSE

Title:

"INTRODUCTION TO ROBOTICS"

Resource Person:

Mrs. Shalom Jerlin,
Technical head,
Hitakey Infosys,
Trichy

Date of conduct from :

30.01.2023

To:

03.02.2023

Duration:

30 Hours

Organized Department :

Electronics and Communication Engineering

Participant Year:

2,3,4

No. of Students Registered :

47

Venue:

DSP Lab

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

- Understand basic components of robotics, classification of robots and their applications.
- Know on types of robot grippers, their usage and design considerations.
- Understand about various types of sensory devices their working and applications.
- Apply basic transformations related to the movement of manipulator.
- Design a robot mechanism to meet kinematics requirements and to write simple programs.

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 * Attendance in VAC out of 100 percentage + 0.5 * Test mark in VAC out of 100 marks)

G. Keerthi
VAC Coordinator

M. Balakrishnan
HoD/ECE

V. S. Srinivasan
Principal

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

- Principal

Indra Ganesan College of Engineering

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Value Added Course "INTRODUCTION TO ROBOTICS"

SAMPLE PHOTOS OF VALUE ADDED COURSE

Title:	"INTRODUCTION TO ROBOTICS"				
Resource Person:	Mrs. Shalom Jerlin , Technical head, Hitakey Infosys, Trichy				
Date of conduct from :	30.01.2023	To:	03.02.2023	Duration:	30 Hours
Organized Department :	Electronics and Communication Engineering				
Participant Year:	2,3,4	No. of Students Registered :	47		
Venue:	DSP Lab				
Sample Photo					



Ce. Keerthi
VAC Coordinator

M. Balakrishnan
HoD/ECE

Principal

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

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Value Added Course "INTRODUCTION TO ROBOTICS"

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

Name of the Student:

AU Register Number:

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

- 1. A place where power, information, or a result leaves a system**
 - a. Chassis
 - b. output
 - c. sensor
 - d. troubleshooting
- 2. Which of the following describes the use of technology or machinery, specifically involving gases?**
 - a. Pneumatics
 - b. Hydraulics
 - c. Actuation
 - d. Carbonation
- 3. The position or alignment relative to points of the compass or other specific directions**
 - a. Loops
 - b. Sensor
 - c. Chassis
 - d. Orientation
- 4. A mechanism having its motive power so concealed that it appears to move spontaneously**
 - a. Automatic
 - b. Clock Jack
 - c. Robot
 - d. Automata
- 5. The branch of technology that deals with dimensions of microscopic proportion, is known as?**
 - a. Nanny technology
 - b. Nanotechnology
 - c. Microtechnology
 - d. Micromachinery
- 6. Which of the following is not an advantage of Robots?**
 - a. They can assist humans with disabilities
 - b. They can replace jobs
 - c. They can be used in dangerous environment
 - d. They don't get tired or require a break
- 7. The Hummingbird _____ require extra power to be able to work**
 - a. Sensors
 - b. LEDs
 - c. Motors
 - d. Tri-Color LEDs
- 8. The branch of technology that deals with the design, construction, operation, and application of robots _____**
 - a. levers
 - b. robotics
 - c. creative power
 - d. Science CSF
- 9. When working in a group for robotics, students should _____**
 - a. Stay on task but don't work with other group members
 - b. Socialize with group members outside of your group and then work alone
 - c. Socialize with other group members and don't help your group
 - d. Stay on task and work with other group members appropriately
- 10. A rigid external covering for the body in some invertebrate animals but also robots.**
 - a. Exoskeleton
 - b. Armor
 - c. Endoskeleton
 - d. Hardware
- 11. The 3rd law of robotics Spirit Isaac Asimov first announced the 3 laws of robotics in 1942.**
 - a. A robot may not injure a human being or, through inaction, allow a human being to come to harm
 - b. A robot can't go to school
 - c. A robot must obey orders given it by human beings except where
 - d. A robot must protect its own existence as



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Value Added Course "INTRODUCTION TO ROBOTICS"

such orders would conflict with the First law

long as such protection does not conflict with the First or Second Law

12. How many systems does a robot have?

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

13. Engines and joints belong to what system?

- a. Digestive system
- b. Sensory system
- c. Electric system
- d. Mechanic system

14. How many types of robots are there?

- a. 7
- b. 10
- c. 6
- d. 8

15. What are the components of the electric system?

- a. Electric joints and cables
- b. Batteries and electric wiring
- c. Engines and joints
- d. Thunder and lightning

16. How many components does the control system have?

- a. 4
- b. 1
- c. 2
- d. 5

17. The processor belongs to the _____

- a. Sensory system
- b. Mechanic system
- c. Electric system
- d. Control system

18. One of these is NOT a type of robot _____

- a. Medical
- b. Industrial
- c. Household
- d. Apologetic

19. The small mobile robot base used in the Robot Educator. This robot is able to perform some but not all of the tasks in the Robotics Engineering activities _____

- a. Light sensor
- b. Lego Mindstorms Education Software
- c. Robot
- d. Robot Educator Model (REM)

20. A block is the basic unit of programming in the NXT programming Software. Blocks perform their operations in order along the Sequence Beam _____

- a. Touch Sensor
- b. Block (programming)
- c. Ports
- d. Behaviors

21. The primary source of physical motion in the Mind storms NXT system.

- a. Interactive Servo Motor
- b. Behaviors
- c. Light Sensor
- d. Touch Sensor

22. A machine that is able to interact with and respond to its environment. characterized by three central capabilities: the ability to Sense, the ability to Plan, and the ability to Act _____

- a. Code
- b. Taskbot
- c. Robots
- d. Ports

23. The three characteristic capabilities that define a robot _____


Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
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Value Added Course "INTRODUCTION TO ROBOTICS"

- a. Comment
- c. Sense-Plan-Act

- b. Sensor
- d. NXT Brick

24. When working in a group for robotics, students should _____

- a. Socialize instead of work and then work alone

- b. Stay on task and don't work with your group


- c. Work alone and don't socialize with group members

- d. stay on task and work with group members appropriately

25. General term for any command or group of commands in a program. In the NXT Programming Software, this is one or more blocks _____

- a. Comment
- c. Ports

- b. Code
- d. Robot


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Value Added Course "INTRODUCTION TO ROBOTICS"

ANSWER KEY

1	A	6	A	11	A	16	A	21	B
2	C	7	B	12	D	17	C	22	D
3	A	8	B	13	B	18	B	23	B
4	B	9	B	14	C	19	A	24	C
5	B	10	B	15	B	20	D	25	A

G. Keerthi
VAC Coordinator


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

"INTRODUCTION TO ROBOTICS"

Name of the Student: Karthika . S

AU Register Number: 811220106023

21
25

Year/Sem: III/V

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

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

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
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1. A place where power, information, or a result leaves a system

- a. Chassis
 c. sensor

- b. output
d. troubleshooting

2. Which of the following describes the use of technology or machinery, specifically involving gases?

- a. Pneumatics
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d. Carbonation

3. The position or alignment relative to points of the compass or other specific directions

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4. A mechanism having its motive power so concealed that it appears to move spontaneously

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d. Hardware

11. The 3rd law of robotics Spirit Isaac Asimov first announced the 3 laws of robotics in 1942.

- a. A robot may not injure a human being or, through inaction, allow a human being to come to harm

- b. A robot can't go to school

- c. A robot must obey orders given it by human beings except where such orders would conflict with the First law

- d. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law



Value Added Course
"INTRODUCTION TO ROBOTICS"

12. How many systems does a robot have?

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16. How many components does the control system have?

- a. 4
- c. 2

- b. 1
- d. 5

17. The processor belongs to the _____

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- c. Electric system

- b. Mechanic system
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- b. Lego Mindstorms Education Software
- d. Robot Educator Model (REM)

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- c. Robots

- b. Taskbot
- d. Ports

23. The three characteristic capabilities that define a robot _____

- a. Comment
- c. Sense-Plan-Act

- b. Sensor
- d. NXT Brick



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Value Added Course "INTRODUCTION TO ROBOTICS"

24. When working in a group for robotics, students should _____

a. Socialize instead of work and then work alone

b. Stay on task and don't work with your group

c. Work alone and don't socialize with group members

d. stay on task and work with group members appropriately

25. General term for any command or group of commands in a program. In the NXT Programming Software, this is one or more blocks _____

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c. Ports

b. Code

d. Robot


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Department of Electronics and Communication Engineering

Academic Year 2022-2023 – Odd Semester

STUDENTS ATTENDANCE LIST

Value Added Course

“INTRODUCTION TO ROBOTICS”


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

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

S.N O	REG NO	STUDENTS NAME	YEAR/ BRANCH	30.01.2023		31.01.2023		01.02.2023		02.02.2023		03.02.2023		NO OF SESSI ONS ATTE NDED	SIGN OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
1	811219106001	Dayana P	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Dayana P
2	811219106002	Devika K	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Devika K
3	811219106003	Dinesh J	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Dinesh J
4	811219106004	Mohana Sundaram K	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Mohana Sundaram K
5	811219106005	Ravikumar B	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Ravikumar B
6	811219106006	Santhanaraj A	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Santhanaraj A
7	811219106008	Srikanth M	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Srikanth M
8	811219106009	Surendran S	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Surendran S
9	811219106010	Surya V	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Surya V
10	811219106011	Swetha K	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Swetha K
11	811219106301	Yuvashree S	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Yuvashree S
12	811219106701	Vijayalakshmi V	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	10	Vijayalakshmi V
13	811219106702	Ponnarasu S	IV/ ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Ponnarasu S
14	811220106006	Banu priya G	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Banu priya G



Indra Ganesan

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Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
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S. NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	30.01.2023		31.01.2023		01.02.2023		02.02.2023		03.02.2023		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
15	811220106008	Bharathidasan C	III / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Bharathidasan C
16	811220106018	Jancy J	III / ECE	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	8	Jancy J
17	811220106019	Jeevasen N	III / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	8	Jeevasen N
18	811220106021	Kamaraj.S	III / ECE	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	9	Kamaraj.S
19	811220106022	.karthick C	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Karthick C
20	811220106023	Karthika S	III / ECE	✓	✓	✓	✓	A	✓	✓	✓	✓	✓	9	Karthika S
21	811220106025	Kishore R	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8	Kishore R
22	811220106026	Kishore kumar M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Kishore kumar M
23	811220106028	Mancy.E	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Mancy.E
24	811220106031	Pradhap.J	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Pradhap.J
25	811220106032	Prasanna.J	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Prasanna.J
26	811220106033	Preethika.M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Preethika.M
27	811220106034	Premalatha.M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Premalatha.M
28	811220106037	Shri Harini Priya B	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Shri Harini Priya B
29	811220106038	Snega M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Snega M
30	811220106039	Sobi amirtha N	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Sobi amirtha N
31	811220106041	Sunil Kumar B	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Sunil Kumar B
32	811220106042	Susila N	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Susila N
33	811220106049	Yoga priya.R	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Yoga priya.R
34	811221106001	Aarthi.S	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Aarthi.S
35	811221106003	Arockia Jenifer.M	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Arockia Jenifer.M
36	811221106005	Deepalakshmi.S	II/ ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Deepalakshmi.S

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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S. N O	REG NO	STUDENTS NAME	YEAR/ BRANCH	30.01.2023		31.01.2023		01.02.2023		02.02.2023		03.02.2023		NO OF SESSIONS ATTENDE D	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
37	811221106008	Dhinesh babu.C	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Dhinesh babu.C
38	811221106012	Jaya Kamakshe Radha.S.P	II/ ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Jaya Kamakshe Radha.S.P
39	811221106022	Parkavi.S	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Parkavi.S
40	811221106024	Premkumer.S	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Premkumer.S
41	811221106033	Thamilarasi.C	II/ ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Thamilarasi.C
42	811221106034	Thrisha.S	II/ ECE	✓	✓	✓	A	✓	✓	✓	A	✓	✓	8	Thrisha.S
43	811221106035	Veerakumar.R	II/ ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Veerakumar.R
44	811221106036	Vellaisamy.S	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Vellaisamy.S
45	811221106037	Victorraj.S	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9	Victorraj.S
46	811221106040	Vishal.V	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Vishal.V
47	811221106301	Om Parkash.R	II/ ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Om Parkash.R
			II/ ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	

A. Keerthi
 VAC Coordinator

M. P. Balakrishnan
 HoD/ECE

(Signature)
 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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Department of Electronics and Communication Engineering

Academic Year 2022-2023 – Odd Semester

VALUE ADDED COURSE ASSESMENT SHEET

“INTRODUCTION TO ROBOTICS”

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	STUDENTS 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)	
1	811219106001	Dayana P	IV ECE	27	90	24	96	93
2	811219106002	Devika K	IV ECE	30	100	20	80	90
3	811219106003	Dinesh J	IV ECE	27	90	21	84	87
4	811219106004	Mohana Sundaram K	IV ECE	30	100	20	80	90
5	811219106005	Ravikumar B	IV ECE	30	100	19	76	82
6	811219106006	Santhanaraj A	IV ECE	30	100	19	76	88
7	811219106008	Srikanth M	IV ECE	30	100	21	84	92
8	811219106009	Surendran S	IV ECE	27	90	19	76	83
9	811219106010	Surya V	IV ECE	27	90	19	76	83
10	811219106011	Swetha K	IV ECE	27	90	20	80	85
11	811219106301	Yuvashree S	IV ECE	30	100	21	84	92




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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attend ed	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
12	811219106701	Vijayalakshmi V	IV ECE					
13	811219106702	Ponnarasu S	IV ECE	27	90	20	80	85
14	811220106006	Banu priya G	III ECE	30	100	21	84	92
15	811220106008	Bharathidasan C	III ECE	30	100	23	92	96
16	811220106018	Jancy J	III ECE	27	90	19	76	83
17	811220106019	Jeevasen N	III ECE	24	80	20	80	80
18	811220106021	Kamaraj.S	III ECE	24	80	21	84	82
19	811220106022	karthick C	III ECE	27	90	22	88	89
20	811220106023	Karthika S	III ECE	30	100	20	80	90
21	811220106025	Kishore R	III ECE	27	90	21	84	87
22	811220106026	Kishore kumar M	III ECE	24	80	20	80	80
23	811220106028	Mancy.E	III ECE	27	90	21	84	87
24	811220106031	Pradhap.J	III ECE	30	100	20	80	90
25	811220106032	Prasannaa.J	III ECE	30	100	19	76	82
26	811220106033	Preethika.M	III ECE	30	100	19	76	88
27	811220106034	Premalatha.M	III ECE	30	100	21	84	92
28	811220106037	Shri Harini Priya B	III ECE	27	90	19	76	83
29	811220106038	Snega M	III ECE	27	90	19	76	83
30	811220106039	Sobi amirtha N	III ECE	27	90	19	76	83


Dr. C. Balakrishnan, M.E., Ph.D.,
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S.NO	REG NO	STUDENTS 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)	
31	811220106041	Sunil Kumar B	III ECE	30	100	20	80	90
32	811220106042	Susila N	III ECE	27	90	19	76	83
33	811220106049	Yoga priya.R	III ECE	30	100	19	76	88
34	811221106001	Aarthi.S	II ECE	30	100	23	92	96
35	811221106003	Arockia Jenifer.M	II ECE	27	90	19	76	83
36	811221106005	Deepalakshmi.S	II ECE	30	100	20	80	90
37	811221106008	Dhinesh babu.C	II ECE	27	90	19	76	83
38	811221106012	Jaya Kamakshe Radha.S.P	II ECE	30	100	19	76	88
39	811221106022	Parkavi.S	II ECE	30	100	21	84	92
40	811221106024	Premkumer.S	II ECE	27	90	21	84	87
41	811221106033	Thamilarasi.C	II ECE	24	80	20	80	80
42	811221106034	Thrisha.S	II ECE	27	90	24	96	93
43	811221106035	Veerakumar.R	II ECE	30	100	20	80	90
44	811221106036	Vellaisamy.S	II ECE	27	90	19	76	83
45	811221106037	Victorraj.S	II ECE	30	100	19	76	88
46	811221106040	Vishal.V	II ECE	30	100	21	84	92
47	811221106301	Om Parkash.R	II ECE	27	90	19	76	83

A. Keerthi
VAC Coordinator


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

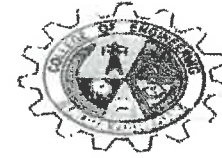

HOD/ECE



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Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
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CERTIFICATE OF PARTICIPATION

This is to certify that Ms. SURYA.V, IV Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.


Mrs. Shalom Jerlin
Technical Head,
Hitakey Infosys.


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


Principal
IGCE



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Department of Electronics and Communication Engineering

Academic Year 2022-2023 –EVEN Semester

26.07.2023

DEPARTMENT CIRCULAR

Department of Electronics and communication Engineering and IQAC of IGCE in association with Hitakey Infosys, is going to organize Value Added Course for all Second, Third and Final year students on “**FIBER OPTIC SYSTEM DESIGN AND SIMULATION**” from 31.07.2023 to 04.08.2023. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

Resource Person	Mrs. Shalom Jerlin, Technical Head, Hitakey Infosys, Trichy
Venue	DSP Lab, ECE


HOD/ECE


PRINCIPAL

Cc:

- Principal office
- IQAC Co-Ordinator
- Class In charges - II, III & IV-Year
- II, III & IV-Year ECE Students
- Office File
- Notice Board


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

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Manikandam, Trichy-620 012.



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Value Added Course

“FIBER OPTIC SYSTEM DESIGN & SIMULATION”

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	OPTICAL TRANSMITTERS-Light Emitting Diodes - Laser diodes	3	31.07.2023
2	Modulators – Optical Layouts for the simulation	3	31.07.2023
3	Component libraries and procedures for simulation in Optisim and/or Optisystem software	3	01.08.2023
4	FIBER OPTIC LINK ANALYSIS- Fiber – Structure of the fiber - Types –Single Mode fiber – Multimode fiber	3	01.08.2023
5	Losses in fiber – attenuation, absorption, scattering, bending losses –Dispersion	3	02.08.2023
6	Intra and inter modal dispersion – dispersion compensation methods –optical amplifiers	3	02.08.2023
7	OPTICAL RECEIVERS-Photo multiplier tubes - photo diodes –	3	03.08.2023
8	Responsivity, Quantum Efficiency, Sensitivity, photo current and transfer characteristics of photo diodes	3	03.08.2023
9	PIN diode and Avalanche diode - basic optical receiver configuration	3	04.08.2023
10	Preamplifiers - BER – WDM concepts.Outline of Li-Fi and Communication through LED	3	04.08.2023
11	Exam	1	05.08.2023
Total Hours (Excluding Exam)		30	-

A. Keerthi

VAC Coordinator

[Signature]

M. D. [Signature]
HOD/ECE

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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REPORT ON VALUE ADDED COURSE

Title: **"FIBER OPTIC SYSTEM DESIGN & SIMULATION"**

Resource Person: Mrs. Shalom Jerlin,
Technical head,
Hitakey Infosys,
Trichy

Date of conduct from : 31.07.2023 To: 04.08.2023 Duration: 30 Hours

Organized Department : **Electronics and Communication Engineering**

Participant Year: 2,3,4 No. of Students Registered : 47

Venue: **DSP Lab**

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

- Know about the Optical transmitters.
- Know the simulation in Optisim and/or Optisystem software
- Explain the Fiber optic link analysis
- Know the Intra and inter modal dispersion & Dispersion compensation methods
- Explain the Optical receivers
- Develop Outline of Li-Fi and Communication through LED

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 * Attendance in VAC out of 100 percentage + 0.5 * Test mark in VAC out of 100 marks)

G. Keethi
VAC Coordinator

M. Blumar
HoD/ECE

Principal
Principal

(Signature)
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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COLLEGE OF ENGINEERING

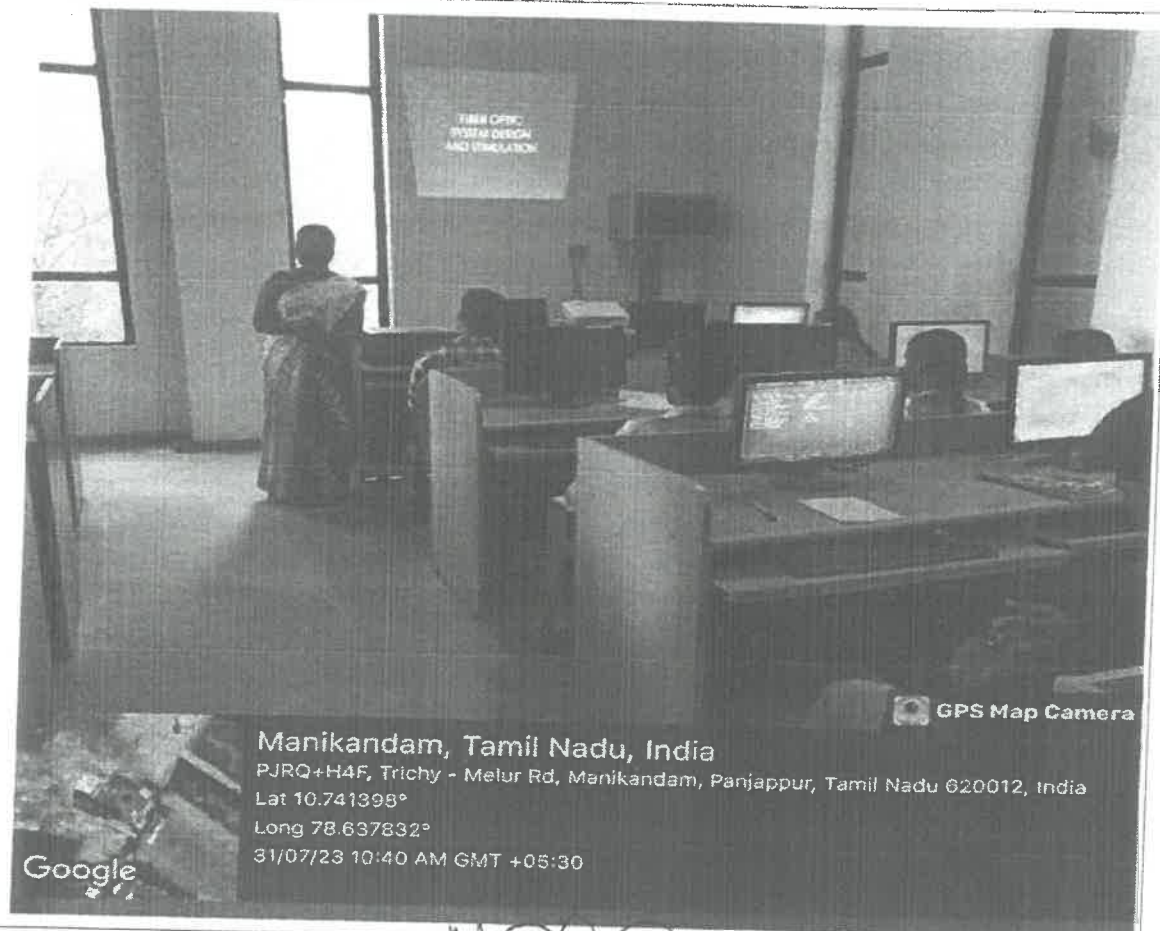
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SAMPLE PHOTOS OF VAC ON FIBER OPTIC SYSTEM DESIGN & SIMULATION

Title:	"FIBER OPTIC SYSTEM DESIGN & SIMULATION"		
Resource Person:	Mrs. Shalom Jerlin , Technical head, Hitakey Infosys, Trichy		
Date of conduct from :	31.07.2023	To:	04.08.2023
		Duration:	30 Hours
Organized Department :	Electronics and Communication Engineering		
Participant Year:	2,3,4	No. of Students Registered :	47
Venue:	DSP Lab		

Sample Photos



Manikandam, Tamil Nadu, India
 PJRQ+H4F, Trichy - Melur Rd, Manikandam, Panjappur, Tamil Nadu 620012, India
 Lat 10.741398°
 Long 78.637832°
 31/07/23 10:40 AM GMT +05:30

Google

GPS Map Camera

A. Iceerthy
VAC Coordinator

M. Balakrishnan
HoD/ECE

Dr. G. Balakrishnan
Principal

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

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



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Value Added Course

"FIBER OPTIC SYSTEM DESIGN AND SIMULATION"

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

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

STUDENTS PARTICIPATION LIST

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
1	811219106001	Dayana P	IV ECE
2	811219106002	Devika K	IV ECE
3	811219106003	Dinesh J	IV ECE
4	811219106004	Mohana Sundaram K	IV ECE
5	811219106005	Ravikumar B	IV ECE
6	811219106006	Santharaj A	IV ECE
7	811219106008	Srikanth M	IV ECE
8	811219106009	Surendran S	IV ECE
9	811219106010	Surya V	IV ECE
10	811219106011	Swetha K	IV ECE
11	811219106301	Yuvashree S	IV ECE
12	811219106701	Vijayalakshmi V	IV ECE
13	811219106702	Ponnarasu S	IV ECE
14	811220106006	Banu priya G	III ECE
15	811220106008	Bharathidasan C	III ECE
16	811220106018	J.Jancy	III ECE
17	811220106019	Jeevasen N	III ECE
18	811220106021	Kamaraj.S	III ECE
19	811220106022	C.karthick	III ECE
20	811220106023	S.Karthika	III ECE
21	811220106025	Kishore R	III ECE
22	811220106026	M. Kishore kumar	III ECE
23	811220106028	Mancy.E	III ECE
24	811220106031	Pradhap.J	III ECE
25	811220106032	Prasannaa.J	III ECE
26	811220106033	Preethika.M	III ECE
27	811220106034	Premalatha.M	III ECE
28	811220106037	Shri Harini Priya B	III ECE
29	811220106038	M.Snega	III ECE
30	811220106039	N.Sobi amirtha	III ECE
31	811220106041	Sunil Kumar B	III ECE
32	811220106042	Susila N	III ECE
33	811220106049	Yoga priya.R	III ECE
34	811221106001	AARTHIS	II ECE



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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
35	811221106003	AROCKIA JENIFER.M	II ECE
36	811221106005	DEEPALAKSHMI.S	II ECE
37	811221106008	DHINESH BABU.C	II ECE
38	811221106012	JAYA KAMAKSHE RADHA.S.P	II ECE
39	811221106022	PARKAVI.S	II ECE
40	811221106024	PREMKUMER.S	II ECE
41	811221106033	THAMILARASI.C	II ECE
42	811221106034	THRISHA.S	II ECE
43	811221106035	VEERAKUMAR.R	II ECE
44	811221106036	VELLAISAMY.S	II ECE
45	811221106037	VICTORRAJ.S	II ECE
46	811221106040	VISHAL.V	II ECE
47	811221106301	OM PARKASH.R	II ECE

A. Keathay

VAC Coordinator

M. B. Kumar

HOD/ECE

(Signature)
Dr. G. Balakrishnan, M.E., Ph.D.,
Principal

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Indra Ganesan

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NAAC Accredited, 2(F) Status Institution by UGC



Name of the Student: _____

Year/Sem: _____

AU Register Number: _____

Value Added Course

“FIBER OPTIC SYSTEM DESIGN & SIMULATION”

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

- Multimode step index fiber has _____
 - Large core diameter & large numerical aperture
 - Large core diameter and small numerical aperture
 - Small core diameter and large numerical aperture
 - Small core diameter & small numerical aperture
- A typically structured glass multimode step index fiber shows as variation of attenuation in range of _____
 - 1.2 to 90 dB km⁻¹ at wavelength 0.69μm
 - 3.2 to 30 dB km⁻¹ at wavelength 0.59μm
 - 2.6 to 50 dB km⁻¹ at wavelength 0.85μm
 - 1.6 to 60 dB km⁻¹ at wavelength 0.90μm
- Multimode step index fiber has a large core diameter of range is _____
 - 100 to 300 μm
 - 100 to 300 nm
 - 200 to 500 μm
 - 200 to 500 nm
- Multimode step index fibers have a bandwidth of _____
 - 2 to 30 MHz km
 - 6 to 50 MHz km
 - 10 to 40 MHz km
 - 8 to 40 MHz km
- Multimode graded index fibers are manufactured from materials with _____
 - Lower purity
 - Higher purity than multimode step index fibers.
 - No impurity
 - Impurity as same as multimode step index fibers.
- The performance characteristics of multimode graded index fibers are _____
 - Better than multimode step index fibers
 - Same as multimode step index fibers
 - Lesser than multimode step index fibers
 - Negligible
- Multimode graded index fibers have overall buffer jackets same as multimode step index fibers but have core diameters _____

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- a) Larger than multimode step index fibers
b) Smaller than multimode step index fibers
c) Same as that of multimode step index fibers
d) Smaller than single mode step index fibers
8. Multimode graded index fibers with wavelength of $0.85\mu\text{m}$ have numerical aperture of 0.29 have core/cladding diameter of _____
a) $62.5\mu\text{m}/125\mu\text{m}$
b) $100\mu\text{m}/140\mu\text{m}$
c) $85\mu\text{m}/125\mu\text{m}$
d) $50\mu\text{m}/125\mu\text{m}$
9. Multimode graded index fibers use incoherent source only.
a) True
b) False
10. In single mode fibers, which is the most beneficial index profile?
a) Step index
b) Graded index
c) Step and graded index
d) Coaxial cable
11. The fibers mostly not used nowadays for optical fiber communication system are _____
a) Single mode fibers
b) Multimode step fibers
c) Coaxial cables
d) Multimode graded index fibers
12. Single mode fibers allow single mode propagation; the cladding diameter must be atleast _____
a) Twice the core diameter
b) Thrice the core diameter
c) Five times the core diameter
d) Ten times the core diameter
13. A fiber which is referred as non-dispersive shifted fiber is?
a) Coaxial cables
b) Standard single mode fibers
c) Standard multimode fibers
d) Non zero dispersion shifted fibers
14. Standard single mode fibers (SSMF) are utilized mainly for operation in _____
a) C-band
b) L-band
c) O-band
d) C-band and L-band

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15. Fiber mostly suited in single-wavelength transmission in O-band is?
- Low-water-peak non dispersion-shifted fibers
 - Standard single mode fibers
 - Low minimized fibers
 - Non-zero-dispersion-shifted fibers
16. _____ limits receiver sensitivity.
- Noise
 - Depletion layer
 - Avalanche
 - Current
17. A _____ performs the linear conversion of the received optical signal into anelectric current.
- Receiver
 - Converter
 - Detector
 - Reflector
18. _____ are provided to reduce distortion and to provide a suitable signal shapefor the filter.
- Detector
 - Equalizer
 - Filters
 - Amplifier
19. A _____ maximizes the received signal-to-noise ratio in the receiver circuitry.
- Filter
 - Equalizer
 - Detector
 - Reflector
20. _____ can be operated in three connections.
- Reflectors
 - Diodes
 - LED's
 - FET's
21. How many structures of pre-amplifiers exist?
- Two
 - Three
 - Four
 - One
22. What is the main factor contributing to the choice of the operational amplifier?
- Gain
 - Impedance
 - Conductance
 - Gain-Bandwidth product


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23. How many categories of dynamic gain equalizers are available?
- a) One
 - b) Two
 - c) Three
 - d) Four
24. How many simultaneous channels can be provided in a band DGE (Dynamic gain equalizer)?
- a) Six
 - b) Two
 - c) Eight
 - d) Ten
25. The multiplication factor for the APD varies with the device temperature.
- a) True
 - b) False

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Value Added Course

“FIBER OPTIC SYSTEM DESIGN & SIMULATION”

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

ANSWER KEY

1	A	6	A	11	A	16	A	21	B
2	C	7	B	12	D	17	C	22	D
3	A	8	B	13	B	18	B	23	B
4	B	9	B	14	C	19	A	24	C
5	B	10	B	15	B	20	D	25	A

A. Keethi
VAC Coordinator

(Signature)
Dr. G. Balakrishnan, M.E., Ph.D.,
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Name of the Student: Vishal V

Year/Sem: II / IV

AU Register Number: 816221106040

Value Added Course

"FIBER OPTIC SYSTEM DESIGN & SIMULATION"

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

21
25

1. Multimode step index fiber has _____

- a) Large core diameter & large numerical aperture
- b) Large core diameter and small numerical aperture
- c) Small core diameter and large numerical aperture
- d) Small core diameter & small numerical aperture

2. A typically structured glass multimode step index fiber shows as variation of attenuation in range of _____

- a) 1.2 to 90 dB km⁻¹ at wavelength 0.69μm
- b) 3.2 to 30 dB km⁻¹ at wavelength 0.59μm
- c) 2.6 to 50 dB km⁻¹ at wavelength 0.85μm
- d) 1.6 to 60 dB km⁻¹ at wavelength 0.90μm

3. Multimode step index fiber has a large core diameter of range is _____

- a) 100 to 300 μm
- b) 100 to 300 nm
- c) 200 to 500 μm
- d) 200 to 500 nm

4. Multimode step index fibers have a bandwidth of _____

- a) 2 to 30 MHz km
- b) 6 to 50 MHz km
- c) 10 to 40 MHz km
- d) 8 to 40 MHz km

5. Multimode graded index fibers are manufactured from materials with _____

- a) Lower purity
- b) Higher purity than multimode step index fibers.
- c) No impurity
- d) Impurity as same as multimode step index fibers.

6. The performance characteristics of multimode graded index fibers are _____

- a) Better than multimode step index fibers
- b) Same as multimode step index fibers
- c) Lesser than multimode step index fibers
- d) Negligible

7. Multimode graded index fibers have overall buffer jackets same as multimode step index fibers but have core diameters _____

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- a) $100\mu\text{m}/140\mu\text{m}$
- b) $85\mu\text{m}/125\mu\text{m}$
- c) $50\mu\text{m}/125\mu\text{m}$
- d) $62.5\mu\text{m}/125\mu\text{m}$

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- a) True
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- c) Step and graded index
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- a) Single mode fibers
- b) Multimode step fibers
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- d) Ten times the core diameter

13. A fiber which is referred as non-dispersive shifted fiber is?

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- c) Standard multimode fibers
- d) Non zero dispersion shifted fibers

14. Standard single mode fibers (SSMF) are utilized mainly for operation in _____

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- c) O-band
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15. Fiber mostly suited in single-wavelength transmission in O-band is?

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17. A _____ performs the linear conversion of the received optical signal into anelectric current.

- a) Receiver
- b) Converter
- c) Detector
- d) Reflector

18. _____ are provided to reduce distortion and to provide a suitable signal shape for the filter.

- a) Detector
- b) Equalizer
- c) Filters
- d) Amplifier

19. _____ maximizes the received signal-to-noise ratio in the receiver circuitry.

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20. _____ can be operated in three connections.

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- b) Diodes
- c) LEDs
- d) PLED's

21. How many structures of pre-amplifiers exist?

- a) Two
- b) Three
- c) Four
- d) One

22. What is the main factor contributing to the choice of the operational amplifier?

- a) Gain
- b) Impedance
- c) Conductance
- d) Gain-Bandwidth product

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- b) Two
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24. How many simultaneous channels can be provided in a band DGE (Dynamic gain equalizer)?

- a) Six
- b) Two
- c) Eight
- d) Ten

25. The multiplication factor for the APD varies with the device temperature.

- a) True
- b) False

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1 by IC

INDRA GANESAN
COLLEGE OF ENGINEERING
IG VALLEY, MADURAI

Department of Electronics and communication Engineering

Academic Year 2022-2023- Even Semester

STUDENTS PARTICIPATION LIST

VAC PROGRAM- FIBER OPTIC SYSTEM DESIGN AND SIMULATION


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	STUDENTS NAME	YEAR/ BRANCH	DATE: 31.07.23		DATE: 01.08.23		DATE: 02.08.23		DATE: 03.08.23		DATE: 04.08.23		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
1	811219106001	Dayana P	IV ECE	/	/	/	/	/	/	/	/	/	/		
2	811219106002	Devika K	IV ECE	/	/	/	/	/	/	/	/	/	/	10	P. Dayana
3	811219106003	Dinesh J	IV ECE	/	/	/	/	/	/	/	/	/	/	10	K. Devika
4	811219106004	Mohana Sundaram K	IV ECE	/	/	/	a	/	/	/	/	/	/	9	Dinesh J
5	811219106005	Ravikumar B	IV ECE	/	/	/	/	/	a	/	/	/	/	9	Mohana Sundaram K
6	811219106006	Santhamaraj A	IV ECE	/	a	/	/	/	/	/	/	/	/	9	Ravikumar B
7	811219106008	Srikanth M	IV ECE	/	/	/	/	/	/	/	a	/	/	9	Santhamaraj A
8	811219106009	Surendran S	IV ECE	/	/	/	/	/	/	/	/	/	/	10	Srikanth M
9	811219106010	Surya V	IV ECE	/	/	/	a	/	/	/	/	/	/	9	V. Surendran
10	811219106011	Sweetha K	IV ECE	/	/	/	/	/	a	/	/	/	/	9	S. Sweetha
11	811219106301	Yuvashree S	IV ECE	/	a	/	/	/	/	/	/	/	/	9	K. Sweetha
				/	/	/	/	/	/	/	/	/	/	10	Yuvashree S

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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	STUDENTS NAME	YEAR/ BRANCH	DATE: 31.07.23		DATE: 01.08.23		DATE: 02.08.23		DATE: 03.08.23		DATE: 04.08.23		NO OF SESSIONS ATTENDED	SIGNATURE OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
12	811219106701	Vijayalakshmi V	IV ECE	/	/	/	/	/	/	/	/	/	/	9	<i>Nil</i>
13	811219106702	Ponnaraju S	IV ECE	/	/	/	/	/	a	/	/	/	/	9	<i>Nil</i>
14	811220106006	Banu priya G	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>Ponnaraju S</i>
15	811220106008	Bharathidasan C	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>Banu priya</i>
16	811220106018	J.Jancy	III ECE	/	a	/	/	/	/	/	/	/	/	9	<i>C. Bharathi</i>
17	811220106019	Jeevasen N	III ECE	/	/	a	a	/	/	/	/	/	/	8	<i>T. Fey</i>
18	811220106021	Kamaraj S	III ECE	/	/	/	/	a	a	/	/	/	/	8	<i>M. Jeenu</i>
19	811220106022	C.karthick	III ECE	/	a	/	/	/	/	/	/	/	/	9	<i>S. Kamaraj</i>
20	811220106023	S.Karthika	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>C. Karthick</i>
21	811220106025	Kishore R	III ECE	/	/	/	/	/	a	/	/	/	/	9	<i>S. Karthika</i>
22	811220106026	M. Kishore kumar	III ECE	/	/	/	/	a	a	/	/	/	/	8	<i>R. Vishnu</i>
23	811220106028	Mancy.E	III ECE	/	a	/	/	/	/	/	/	/	/	9	<i>H. Haritha</i>
24	811220106031	Pradhap.J	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>E. Nancy</i>
25	811220106032	Prasanna.J	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>S. B.</i>
26	811220106033	Preethika.M	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>J. Prasad</i>
27	811220106034	Premalatha.M	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>M. Jancy</i>
28	811220106037	Shri Harini Priya B	III ECE	/	/	/	/	/	/	/	a	/	/	9	<i>Prema</i>
29	811220106038	M. Sneha	III ECE	/	/	/	/	/	a	/	/	/	/	9	<i>Shri</i>
30	811220106039	N.Sobi anurtha	III ECE	/	a	/	a	/	/	/	/	/	/	9	<i>Jaya</i>
				/	/	/	/	/	/	/	/	/	/	9	<i>Shri</i>



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				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
31	811220106041	Sumil Kumar B	III ECE	/	/	/	/	/	/	/	/	/	/		
32	811220106042	Susila N	III ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
33	811220106049	Yoga priya.R	III ECE	/	/	/	a	/	/	/	/	/	/	9	<i>(Signature)</i>
34	811221106001	Aarthi.S	II ECE	/	/	/	/	a	a	/	/	/	/	8	<i>(Signature)</i>
35	811221106003	Arockia jenifer.M	II ECE	/	a	/	/	/	/	/	/	/	/	9	<i>(Signature)</i>
36	811221106005	Deepalakshmi.S	II ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
37	811221106008	Dhinesh babu.C	II ECE	/	/	/	/	/	a	/	/	/	/	9	<i>(Signature)</i>
38	811221106012	Jaya kamakshie radha.S.P	II ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
39	811221106022	Parkavi.S	II ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
40	811221106024	Prendanice.S	II ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
41	811221106033	Thamilarasi.C	II ECE	/	/	/	/	/	/	/	a	/	/	10	s. Parkavi
42	811221106034	Thrisha.S	II ECE	/	/	a	a	/	/	/	/	/	/	9	<i>(Signature)</i>
43	811221106035	Veerakumar.R	II ECE	/	a	/	/	/	/	/	/	/	/	8	<i>(Signature)</i>
44	811221106036	Vellaisamy.S	II ECE	/	/	/	/	/	/	/	/	/	/	9	<i>(Signature)</i>
45	811221106037	Victorraj.S	II ECE	/	/	/	/	/	a	/	/	/	/	10	<i>(Signature)</i>
46	811221106040	Vishal.V	II ECE	/	/	/	/	/	/	/	/	/	/	9	<i>(Signature)</i>
47	811221106301	Om parkash.R	II ECE	/	/	/	/	/	/	/	/	/	/	10	<i>(Signature)</i>
				/	/	/	a	/	/	/	/	/	/	10	<i>(Signature)</i>
				/	/	/	/	/	/	/	/	/	/	9	<i>(Signature)</i>

(Signature)
 VAC Coordinator

(Signature)
 HOD/ECE



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Department of Electronics and Communication Engineering

Academic Year 2022-2023 – Even Semester

VALUE ADDED COURSE ASSESMENT SHEET

FIBER OPTIC SYSTEM DESIGN & SIMULATION

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	STUDENTS 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)	
1	811219106001	Dayana P	IV ECE	30	100	20	80	90
2	811219106002	Devika K	IV ECE	30	100	20	80	90
3	811219106003	Dinesh J	IV ECE	27	90	19	76	83
4	811219106004	Mohana Sundaram K	IV ECE	27	90	21	84	87
5	811219106005	Ravikumar B	IV ECE	27	90	19	76	83
6	811219106006	Santhanaraj A	IV ECE	27	90	19	76	83
7	811219106008	Srikanth M	IV ECE	30	100	20	80	90
8	811219106009	Surendran S	IV ECE	27	90	19	76	83
9	811219106010	Surya V	IV ECE	27	90	19	76	83
10	811219106011	Swetha K	IV ECE	27	90	19	76	83
11	811219106301	Yuvashree S	IV ECE	30	100	21	84	92



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COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B), Manikandam, Trichy-12.
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

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	STUDENTS 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)	
12	811219106701	Vijayalakshmi V	IV ECE	27	90	20	80	85
13	811219106702	Ponnarasu S	IV ECE	30	100	21	84	92
14	811220106006	Banu priya G	III ECE	30	100	19	76	88
15	811220106008	Bharathidasan C	III ECE	27	90	19	76	83
16	811220106018	J.Jancy	III ECE	24	80	20	80	80
17	811220106019	Jeevasen N	III ECE	24	80	21	84	82
18	811220106021	Kamaraj.S	III ECE	27	90	22	88	89
19	811220106022	C.karthick	III ECE	30	100	20	80	90
20	811220106023	S.Karthika	III ECE	27	90	21	84	87
21	811220106025	Kishore R	III ECE	24	80	20	80	80
22	811220106026	M. Kishore kumar	III ECE	27	90	21	84	87
23	811220106028	Mancy.E	III ECE	30	100	20	80	90
24	811220106031	Pradhap.J	III ECE	30	100	19	76	82
25	811220106032	Prasanna.J	III ECE	30	100	19	76	88
26	811220106033	Preeethika.M	III ECE	30	100	21	84	92
27	811220106034	Premalatha.M	III ECE	27	90	19	76	83
28	811220106037	Shri Harini Priya B	III ECE	27	90	19	76	83
29	811220106038	M.Snega	III ECE	27	90	19	76	83
30	811220106039	N.Sobi amirtha	III ECE	27	90	19	76	83



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				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
31	811220106041	Sunil Kumar B	III ECE	30	100	19	76	88
32	811220106042	Susila N	III ECE	27	90	19	76	83
33	811220106049	Yoga priya.R	III ECE	24	80	21	84	82
34	811221106001	AARTHI.S	II ECE	27	90	20	80	85
35	811221106003	AROCKIA JENIFER.M	II ECE	30	100	21	84	92
36	811221106005	DEEPALAKSHMI.S	II ECE	27	90	19	76	83
37	811221106008	DHINESH BABU.C	II ECE	30	100	19	76	88
38	811221106012	JAYA KAMAKSHE RADHA.S.P	II ECE	30	100	19	76	88
39	811221106022	PARKAVI.S	II ECE	30	100	21	84	92
40	811221106024	PREMKUMER.S	II ECE	27	90	21	84	87
41	811221106033	THAMILARASI.C	II ECE	24	80	20	80	80
42	811221106034	THRISHA.S	II ECE	27	90	21	84	87
43	811221106035	VEERAKUMAR.R	II ECE	30	100	20	80	90
44	811221106036	VELLAISAMY.S	II ECE	27	90	19	76	83
45	811221106037	VICTORRAJ.S	II ECE	30	100	19	76	88
46	811221106040	VISHAL.V	II ECE	30	100	21	84	92
47	811221106301	OM PARKASH.R	II ECE	27	90	19	76	83


VAC Coordinator


Dr. G. Balakrishnan, M.E., Ph.D.,
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HOD/ECE



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NAAC Accredited, 2(P) Status Institution by UGC



CERTIFICATE OF PARTICIPATION

This is to certify that Ms. SURENDRAN.S, IV Year, ECE has successfully completed the Value Added Course on “FIBER OPTIC SYSTEM DESIGN & SIMULATION” organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 31st July 2023 to 04th August 2023 (5days) during the Academic year 2022-2023.

Mrs. Shalom Jerlin
Technical Head,
Hitakey Infosys.

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
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Manikandam, Trichy-620 012.

Principal
IGCE