



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 – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

INDRA GANESAN COLLEGE OF ENGINEERING





DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2022-2023 /EVEN SEMESTER

1.2 Academic Flexibility (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:	FIBER OPTIC SYSTEM DESIGN AND 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:	ECE IV, III, II	Semester:	EVEN	No. of Students Registered:	47
Venue:	DSP Lab				

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Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
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NAAC Accredited, 3(F) Status Institution by UGC



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

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
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.,
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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

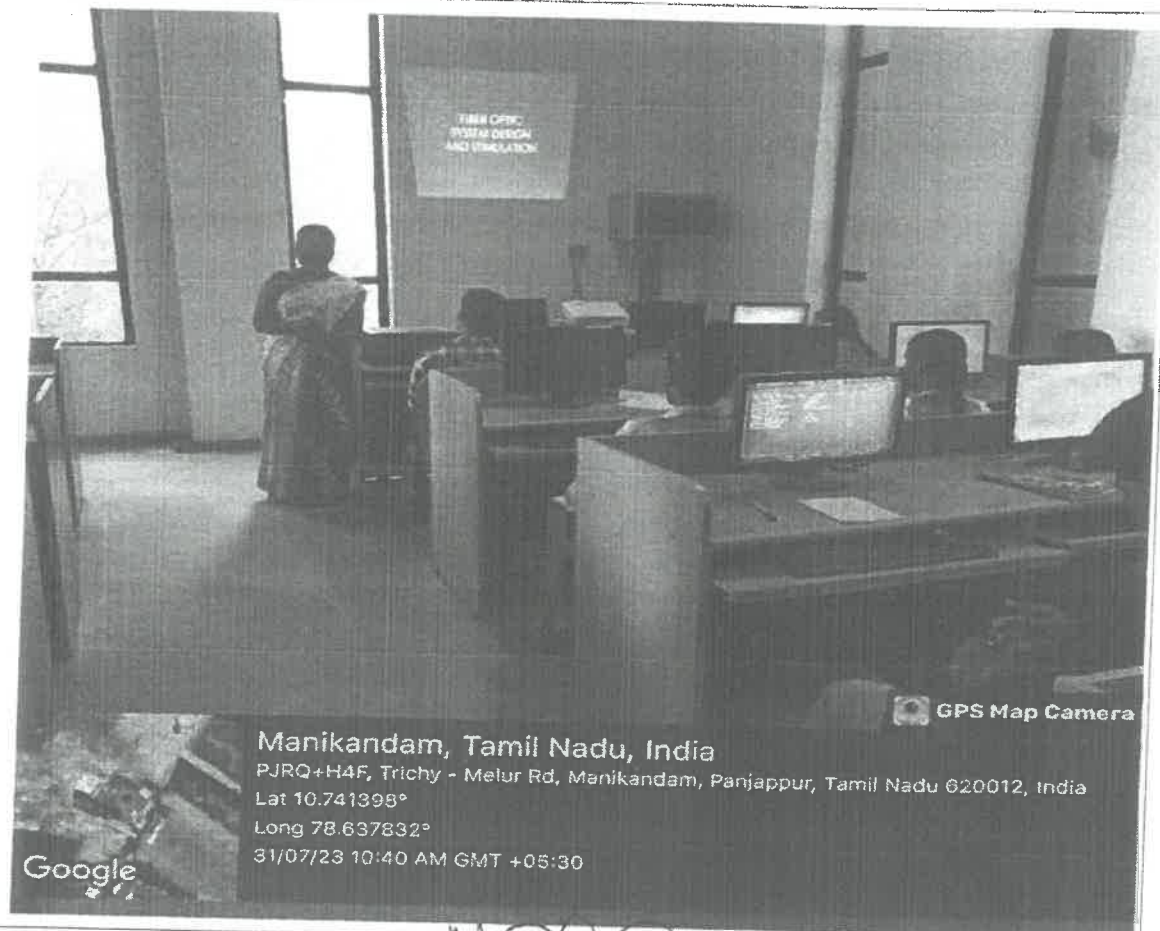
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SAMPLE PHOTOS OF VAC ON FIBER OPTIC SYSTEM DESIGN & SIMULATION

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

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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.,
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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 _____

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

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


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

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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

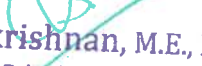
“FIBER OPTIC SYSTEM DESIGN & SIMULATION”

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


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

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

a) $62.5\mu\text{m}/125\mu\text{m}$

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 at least _____

- 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?

- a) Low-water-peak non dispersion-shifted fibers
- b) Standard single mode fibers
- c) Low minimized fibers
- d) Non-zero-dispersion-shifted fibers

16. _____ limits receiver sensitivity.

- a) Noise
- b) Depletion layer
- c) Avalanche
- d) Current

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.

- a) Filter
- b) Equalizer
- c) Detector
- d) Reflector

20. _____ can be operated in three connections.

- a) Reflectors
- 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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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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1 by 10

ENGINEERING

INDRA GANESAN COLLEGE OF ENGINEERING

IG VALLEY, MADURAI MAIN ROAD, MANIKANDAM, TRICHY-620 012

Department of Electronics and communication Engineering

Academic Year 2022-2023- Even Semester

STUDENTS PARTICIPATION LIST

EAC 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	/	/	/	/	/	/	/	/	/	/	9	Dinesh J
5	811219106005	Ravikumar B	IV ECE	/	/	/	/	/	/	/	/	/	/	9	Mohana Sundaram K
6	811219106006	Santhamaraj A	IV ECE	/	/	/	/	/	/	/	/	/	/	9	Ravikumar B
7	811219106008	Srikanth M	IV ECE	/	/	/	/	/	/	/	/	/	/	9	Santhamaraj A
8	811219106009	Surendran S	IV ECE	/	/	/	/	/	/	/	/	/	/	10	Srikanth M
9	811219106010	Surya V	IV ECE	/	/	/	/	/	/	/	/	/	/	9	V. Surendran S
10	811219106011	Sweetha K	IV ECE	/	/	/	/	/	/	/	/	/	/	9	S. Sweetha K
11	811219106301	Yuvashree S	IV ECE	/	/	/	/	/	/	/	/	/	/	9	K. Yuvashree S
				/	/	/	/	/	/	/	/	/	/	10	Yuvashree S

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				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. Prathasam</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>



INDRA GANESAN COLLEGE OF ENGINEERING
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(Signature)
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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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				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	Prasannaa.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


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Principal

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CERTIFICATE OF PARTICIPATION

This is to certify that Mr.DINESH J, 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.,
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CERTIFICATE OF PARTICIPATION

This is to certify that Mr. 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.

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CERTIFICATE OF PARTICIPATION

This is to certify that Mr.SANTHANA RAJ A, 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.

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Technical Head,
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This is to certify that Mr. SURYA V, 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,
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This is to certify that Ms. SWETHA K, 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.

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Technical Head,
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CERTIFICATE OF PARTICIPATION

This is to certify that Ms. VIJAYA LAKSHMI V, 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.

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CERTIFICATE OF PARTICIPATION

This is to certify that Mr. BHARATHIDASAN C, III 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.

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Technical Head,
Hitakey Infosys.

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

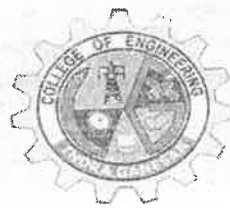
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CERTIFICATE OF PARTICIPATION

This is to certify that Mr.KAMARAJ S, III 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.

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CERTIFICATE OF PARTICIPATION

This is to certify that Ms.MANCY E 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.

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Technical Head,
Hitakey Infosys.

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CERTIFICATE OF PARTICIPATION

This is to certify that Ms.PREETHIKA M, III 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.

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This is to certify that Ms. SNEGA M, III 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.

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Technical Head,
Hitakey Infosys.

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Principal
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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



CERTIFICATE OF PARTICIPATION

This is to certify that Ms.DEEPA LAKSHMI S, II 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.,
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This is to certify that Mr.DINESH BABU C, II 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.

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This is to certify that Ms.TAMILARASI C, II 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.

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This is to certify that Mr. VELLAISAMY S, II 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.

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This is to certify that Mr.VISHAL V, II 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.

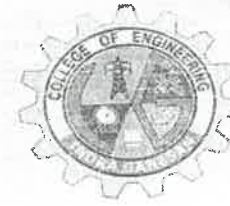
Mrs. Shalom Jerlin
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This is to certify that Ms. KARTHIKA S, III Year, ECE has successfully completed the Value Added Course on “FIBER OPTIC SYSTEM DESIGN & SIMULATION” organized by Department of Electronics and Communication Engineering and IQAC of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

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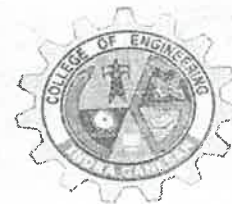
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This is to certify that Mr. VICTOR RAJ S, II Year, ECE has successfully completed the Value Added Course on “FIBER OPTIC SYSTEM DESIGN & SIMULATION” organized by Department of Electronics and Communication Engineering and IQAC of our Institution in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

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