

# SRM Institute of Science and Technology College of Engineering and Technology

## **DEPARTMENT OF ECE**

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, TamilNadu

Academic Year: 2023-2024 (ODD)

**Test:** CLAT- 4 (Assignment – 1)

 $\textbf{Course Code \& Title:} \ 18 ECE 226 T-Optical \ Components, \ Systems \ and \ Networks$ 

Year & Sem: 4<sup>th</sup> Year / 7<sup>th</sup> Sem

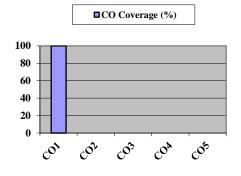
Max. Marks: 20

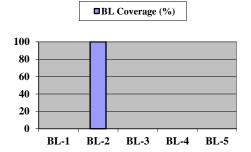
### **Course Articulation Matrix:**

| 18ECI | 18ECE226T - Optical Components Systems and Networks  |                 | Program Outcomes (POs)   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |
|-------|--|-----------------|--------------------------|---|---|---|---|---|---|---|---|----|----|----|---|---|---|
|       |  | Learning        | Graduate Attributes PSOs |   |   |   |   |   |   |   |   |    |    |    |   |   |   |
| COs   | At the end of this course, learners will be able to:   | Blooms<br>Level | 1                        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 |
| CO-1: | Interpret the fundamentals of light transmission through an optical fiber and their attenuation mechanisms.                                      | 3               | 1                        | 2 | - | 3 | - | - | - | 1 | - | -  | -  | -  | - | - | - |
| CO-2: | Express the principle and operation of various display devices, light sources, amplifiers, and various problems related to optical transmitters. | 2               | 3                        | 2 | - | - | - | - | - | - | - | -  | -  | -  | 3 | - | - |
| CO-3: | Analyze various photodetectors with their noise performance, receiver operation, and configuration.  | 4               | 1                        | 3 | - | 2 | - | - | - | - | - | -  | -  | -  | 3 | - | - |
| CO-4: | Examine the knowledge of various optical modulators and switches used in optical communication and acquaint with OEIC design                     | 3               | 1                        | 2 | 3 | - | - | - | - | ı | - | -  | -  | -  | 3 | - | - |
| CO-5: | Implement fiber optic links based on power budgets and multichannel optical communication systems using WDM and DWDM techniques                  | 5               | -                        | 1 | 2 | 3 | - | - | - | - | - | -  | -  | -  | - | - | 3 |

| (10 x 2 = 20 Marks) Instructions: Answer ALL the Questions |  |       |    |     |     |  |  |  |
|--|--|-------|----|-----|-----|--|--|--|
| Q. No  | Question   | Marks | BL | CO  | PO  |  |  |  |
| 1  | Explain in detail about the expanded beam connectors                   | 10    | 2  | CO1 | PO1 |  |  |  |
| 2  | List the types of fiber misalignment in optical fiber. Briefly explain | 10    | 2  | CO1 | PO1 |  |  |  |
|  | about each type.   |       |    |     |     |  |  |  |

## Course Outcome (CO) and Bloom's level (BL) Coverage in Questions





**Approved by the Course Coordinator** 

Signature of the Question paper setter

## **Evaluation Sheet**

### Name of the Student:

| Register No.: |
|---------------|
|---------------|

| Part- A (10 x 2= 20 Marks) |     |     |                  |                   |       |  |  |
|----------------------------|-----|-----|------------------|-------------------|-------|--|--|
| Q. No                      | СО  | PO  | Maximum<br>Marks | Marks<br>Obtained | Total |  |  |
| 1                          | CO1 | PO1 | 10               |                   |       |  |  |
| 2                          | CO1 | PO1 | 10               |                   |       |  |  |

### **Consolidated Marks:**

| CO    | Maximum Marks | Marks Obtained |
|-------|---------------|----------------|
| 1     | 20            |                |
| Total | 20            |                |

| PO    | Maximum Marks | Marks Obtained |
|-------|---------------|----------------|
| 1     | 20            |                |
| Total | 20            |                |

**Signature of the Course Teacher**