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**C16-EC-504****6632**

**BOARD DIPLOMA EXAMINATION, (C-16)**  
**OCTOBER/NOVEMBER—2023**  
**DECE - FIFTH SEMESTER EXAMINATION**  
**OPTICAL AND MOBILE COMMUNICATION**

*Time : 3 Hours ]**[ Total Marks : 80***PART—A****3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define single mode and multimode fibers.
2. Classify different types of dispersions in optical fibers.
3. List various fiber optic components.
4. Write three advantages of LASER over LED.
5. List the advantages of electronic telephony over manual telephony.
6. Define the terms mobile station and base station.
7. Define the term handoff in mobile communication.
8. Write the need for multiple accesses in communication.
9. List various interfaces in GSM architecture.
10. Write features of 4G technology.

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**PART—B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** List various fibers based on refractive index profile and explain the structure of each. 10
- 12.** Draw and explain the block diagram of DWDM system. 4+6
- 13.** Explain the construction and working of LASER source. 5+5
- 14.** Explain the evolution of various technologies in cellular system. 10
- 15.** (a) Define salient features of optical detectors. 5  
(b) Briefly explain the functions of Mobile Switching Centre. 5
- 16.** Explain the concept of frequency reuse in cellular communication. 10
- 17.** Explain FDMA and its features. 4+6
- 18.** Explain the concepts of GPRS and EDGE and compare them with GSM. 10

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