

6632

BOARD DIPLOMA EXAMINATIONS

SEPTEMBER/OCTOBER-2020

DECE-FIFTH SEMESTER

OPTICAL & MOBILE COMMUNICATIONS

Time:3 hours

Max. Marks: 80

PART – A

3 X 10 = 30

- Instructions:*
1. Answer **all** questions.
 2. Each question carries **Three** Marks.
 3. Answer should be brief and straight to the point and should not exceed five simple sentences.

1. Classify the types of optical fibre.
2. Define acceptance angle and cone of acceptance.
3. State the need for optical coupler.
4. What are the features of optical source.
5. State the functions of mobile Switching Centre (MSC).
6. Compare pulsed and DTMF dialing.
7. What is the relation between capacity and cluster size?
8. What is spread spectrum technique?
9. What are the advantages of 4G?
10. What are the interfaces in GSM Architecture?

PART – B

5 X 10 = 50

- Instructions:** 1. Answer any **Five** questions
2. Each question carries **TEN** Marks.
3. Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.

11. a) Explain the structure of optical fibre. 5M
b) Explain the various types of dispersions occur in optical fibres. 5M
12. a) State the need for WDM in fibre Optic Communications. 3M
b) Draw the Block diagram of DWDM and explain each block. 7M
13. Draw the block diagram of fibre – optic communication system and explain each block.
14. a) Explain the salient features of optical detectors. 5M
b) Explain in-band and out-band signaling. 5M
15. a) What are the advantages of electronic telephony over manual Telephony. 4M
b) Explain the evolution of cellular mobile communication systems. 6M
16. a) What is the need for multiple access techniques in mobile Communication and Explain the FDMA. 7M
b) What are the drawbacks of analog cellular system? 3M
17. a) Draw the TDMA frame structure. 3M
b) Explain CDMA and Compare TDMA and CDMA. 7M
18. a) List the security aspects of GSM. 4M
b) Compare the features of GSM, GPRS and EDGE systems. 6M