

Roll No : .....

Total No. of Questions : 11 ]

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# SP-731

## M.Sc. (Final) Examination, 2021 INFORMATION TECHNOLOGY

Paper -MIT-206(C)

### (Communication Theory)

Time : 1½ Hours ]

[ Maximum Marks : 50

#### Section-A

(Marks : 2 × 10 = 20)

**Note :-** Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

(खण्ड-अ)

(अंक : 2 × 10 = 20)

**नोट :-** सभी दस प्रश्नों के उत्तर दीजिए (उत्तर-सीमा **50** शब्द)। प्रत्येक प्रश्न **2** अंक का है।

#### Section-B

(Marks : 3 × 5 = 15)

**Note :-** Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **3** marks.

(खण्ड-ब)

(अंक : 3 × 5 = 15)

**नोट :-** सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा **200** शब्द)। प्रत्येक प्रश्न **3** अंक का है।

#### Section-C

(Marks : 5 × 3 = 15)

**Note :-** Answer any *three* questions out of five (Answer limit **500** words). Each question carries **5** marks.

(खण्ड-स)

(अंक : 3 × 5 = 15)

**नोट :-** पाँच में से किन्हीं **तीन** प्रश्नों के उत्तर दीजिए (उत्तर-सीमा **500** शब्द)। प्रत्येक प्रश्न **5** अंक का है।

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**Section–A**

2 each

1. (i) Why modulation is required ?
- (ii) Define Signal Propagation.
- (iii) What are AM-DSB signals ?
- (iv) Define Amplitude modulation.
- (v) Mention the advantage of modulating low frequency signal into high frequency signal.
- (vi) Compare AM and PM.
- (vii) Define CDMA.
- (viii) What do you mean by WDM ?
- (ix) What is Routing ?
- (x) Define Metrics.

**Section–B**

3 each

2. Differentiate between Analog and Digital Communication.

*Or*

Explain the modulation techniques.

3. Explain detector circuits for AM systems.

*Or*

Explain demodulation of AM-DSB/SC signals.

4. Explain narrow band and wide band FM.

*Or*

Explain Phase Modulation (PM).

5. What do you mean by Access Control ? Explain with MAC.

*Or*

Explain IEEE 802.16.

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6. What do you understand by Mobile Transport layer ?

*Or*

What are Protocols ? Explain datagram protocol.

**Section–C**

5 each

7. What is Multiplexing ? Explain its types.

8. Explain AM transmitters and receivers.

9. Explain generation and modulation of FM signals.

10. Explain WDM Optical Networks Bluetooth.

11. Write short notes on the following :

(a) Snooping

(b) WAP

(c) Mobile IP