



RAN - 1911000702040001

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M. Sc. ICT (Sem. - II) Examination April - 2025

Digital Communication (Paper : 204)

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

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નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

M. Sc. ICT (Sem. II)

Name of the Subject :

Digital Communication (Paper - 204)

Subject Code No.: **1911000702040001**

Seat No.:

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Student's Signature

Q.1 Answer the following questions (Any four)

16

- 1) Explain working of Digital Communication Network.
- 2) Explain cell splitting and cell sectoring in cellular architecture.
- 3) Explain data transmission modes.
- 4) Explain fiber optic and twisted pair cables with diagram
- 5) Explain FDM and TDM with suitable diagrams.

Q.2 (A) Answer the following questions (Any four)

4

- 1) Define broadband connection.
- 2) Define amplitude of a wave.
- 3) What is mobile computing?
- 4) Define two characteristics of Infrared
- 5) What is M2M?

Q.2 (B) Answer the following questions (Any Two) 14

- 1) What is a switch? Explain packet Switching and circuit switching techniques.
- 2) Explain GSM architecture with a diagram.
- 3) What is modulation? Explain ASK, PSK, FSK with diagram.

Q.3 Answer the following questions (Any six) 18

- 1) Describe WLL in brief.
- 2) Explain Wi- Max in brief.
- 3) Differentiate Serial and Parallel communication.
- 4) What is EM spectrum? Explain in brief.
- 5) Explain FHSS with an example.
- 6) Define range of c, Ku and Ka frequency bands. Where are they used?
- 7) Ideal shape of cell is hexagonal. Justify.

Q.4 (A) Answer the following questions in short (Any four) 4

- 1) Define PAN.
- 2) What is 1G network? Give two characteristics.
- 3) What is a transducer?
- 4) What is internal noise in a channel?
- 5) What is Infrared?

Q.4 (B) Answer the following questions (Any two) 14

- 1) Explain PCM technique with proper diagram.
- 2) Describe Bluetooth Protocol Stack in detail with its block diagram.
- 3) Which communication technology is used in automatic doors?
Explain it in detail.