M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION MAY - JUNE 2025

COMPUTER SCIENCE

Paper - I

[Computer Networks]

[Max. Marks : 75]   *[Time : 3:00 Hrs.]*   *[Min. Marks : 26]*

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt all five questions. Each question carries an internal choice.
Each question carries **15 marks.**

Q. 1 a) Explain the functions and services of each layers of OSI Model.   **(10 Marks)**

     b) Compare the connection oriented and connection less services.   **(05 Marks)**

OR

     a) Explain the Packet Switching and Circuit Switching.   **(10 Marks)**

     b) Explain Coaxial in details.   **(05 Marks)**

Q. 2 Explain LRC and CRC error detection mechanism in details.   **(15 Marks)**

OR

Write short note on the following –

i) Single bit error.   **(03 Marks)**

ii) Burst error.   **(03 Marks)**

iii) Flow control.   **(03 Marks)**

iv) Framing.   **(06 Marks)**

Q. 3 What do you mean by MAC Sublayer ? Explain in detail about controlled access protocols which are used in MAC sublayer.   **(15 Marks)**

OR

Write short note on the following –   **(05 Marks each)**

i) Token bus and Token ring.

ii) Pure and slotted ALOHA.

iii) FDDI

Q. 4 What do you mean by Protocols ? Explain link state routing and shortest path routing in details. **(15 Marks)**

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OR

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Explain broadcasting and multicast routing in detail. **(15 Marks)**

Q. 5 What do you mean by Transport Layer ? Explain TCP and UDP Protocols in detail. **(15 Marks)**

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OR

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a) Explain the SMTP and SNMP in detail. **(10 Marks)**

b) Write difference between symmetric and asymmetric key algorithm.

(05 Marks)

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