

(Time: 3 hours)

[Total Marks: 75]

Please check that you have got the correct question paper.

- N. B.: (1) All questions are compulsory.  
 (2) Make suitable assumptions wherever necessary and state the assumptions made.  
 (3) Answers to the same question must be written together.  
 (4) Numbers to the right indicate marks.  
 (5) Draw neat labeled diagrams wherever necessary.  
 (6) Use of Non-programmable calculators is allowed.

### SECTION – I

1.
  - a. Explain Code Division Multiple Access (CDMA). 7
  - b. Explain Minimum Shift Keying with an example. 6
- OR
1.
  - a. What are the different applications of wireless and mobile application? 7
  - b. Explain in detail services offered by GSM architecture. 6
2.
  - a. What are the problems of signal propagation? Why do radio waves always follow a straight line? Why their refraction is both useful and harmful? 7
  - b. Explain term multiple access with collision avoidance (MACA). How does it fail in case of hidden/exposed terminals for mobile stations in changing transmission characteristics. 6
- OR
2.
  - a. What is the basic purpose of DHCP? How DHCP can be used for mobility and support of the mobile IP? 7
  - b. How TETRA frame is structured? Which are the standards involved in TETRA? 6
3.
  - a. What characteristics do the different orbits have? What are their pros and cons? 6
  - b. Name the reasons for the development of wireless ATM. What is one of the main differences in internet technologies from this point of view? Why did wireless ATM not succeed as standalone technology? 6
- OR
3.
  - a. Explain in detail Indirect TCP used in mobile transport layer and give its drawbacks. 6
  - b. Explain the wireless transaction protocol. 6

[TURN OVER]

## SECTION II

4.
  - a. Explain routing and list the advantages of routing. Distinguish between bridges and routers. **7**
  - b. What is the process of creating standards? Explain with the help of diagram. **6**

**OR**
4.
  - a. What do you mean by data communications? Define needs of data communications. List the applications of data communication. **7**
  - b. Explain Open Systems Interconnection Reference Model (OSIRM). **6**
5.
  - a. Explain Synchronous Optical Network (SONET) with its advantages. **6**
  - b. State and explain transmission media in brief. **6**

**OR**
5.
  - a. Explain switched multimegabit data service (SMDS). **6**
  - b. Write short note on token bus and token ring. **6**
6.
  - a. Explain System Network Architecture (SNA) along with its functions. **6**
  - b. What is packet switching? Compare private versus public networking. **6**

**OR**
6.
  - a. What are the business and technical challenges faced by the organizations while setting up a network? **6**
  - b. Explain ISDN and broadband ISDN in detail. **6**