Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

IT012: Next Generation Networks

Major Examination (Session 2023–24)

Maximum Time: 3 Hours   Max Marks: 50

Note: Answer any five questions. Clearly mention assumptions wherever required.

1. (a) Define the layered architecture of NGN. (b) Explain how separation of control and transport functions is achieved. (10 Marks)

2. (a) Describe in detail the architecture of IMS and its functional entities. (b) How does IMS support multimedia services? (10 Marks)

3. (a) What is QoS in NGN? Discuss QoS classes and parameters. (b) Explain DiffServ and IntServ mechanisms. (10 Marks)

4. (a) Explain the role of MPLS in traffic engineering. (b) Compare MPLS with traditional IP routing. (8 Marks)

5. (a) What are softswitches? Explain their working principle. (b) Illustrate their role in NGN call control. (6 Marks)

6. Write short notes on any two: (i) Fixed–mobile convergence (ii) IPv6 support in NGN (iii) NGN security challenges (6 Marks)