**Total No. of Questions: 09**

**PGDCA (2014 & Onwards)   (Sem. – 2)**
# DATA COMMUNICATION AND NETWORKS
**M Code: 50513**
**Subject Code: PDCA-204**
**Paper ID: [B0153]**

**Time: 3 Hrs.**                                          **Max. Marks: 60**

**INSTRUCTIONS TO CANDIDATES:**
1.   **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2.   **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3.   **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

## SECTION A

1. Answer briefly:

   a)   What is IPSec used for?

   b)   What is a network?

   c)   State different types of networks.

   d)   What is the difference between MAN and WAN?

   e)   What is the need of defining a topology? What factors need to be considered before making a choice for the topology?

   f)   What is the limitation of star topology?

   g)   State the difference between SLIP and PPP.

   h)   Explain the architecture of a TCP/IP protocol suite.

   i)   Draw IP packet format and explain its various components.

   j)   Explain shortest path routing algorithm.

## SECTION B

2. What is the difference between circuit switching and packet switching? Which one of them is faster and why? Which is more resource intensive and why?

3. What is IPSec Protocol? Discuss its header.

4. How is TDMA based network different from CDMA based networks?

5. What is the mechanism used to secure traffic communication over http protocol? What are digital signatures and how are they implemented?

6. Explain the network architecture of a cellular network.

## SECTION C

7. Compare the TCP header and UDP header. List the field in the TCP header that is missing from UDP header. Give the reason for their absence.

8. What are the essentials of a Wireless System Design? Why is frequency reuse important and how can it be attained in a cellular network?

9. Explain the different types of Routing Protocols. Specifically discuss in details 03 routing protocols used in adhoc networks.

   a) Explain IEEE 802.11 architecture and services.

   b) Explain logical link control.