

**CDOE**  
**MASTER OF COMPUTER APPLICATIONS (CBCS-2018 COURSE)**  
**M.C.A. Sem - III : WINTER :- 2021**  
**SUBJECT: COMPUTER NETWORKS**

**Day : Tuesday**  
**Date 15-02-2022**

**W-19189-2021**

**Time : 10:00 AM-01:00 PM**  
**Max. Marks: 70**

**N.B.:**

- 1) Attempt **ANY FOUR** questions from section – I and **ANY TWO** questions from section - II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Both the Sections should be written in Same **ANSWER** Book.

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**SECTION – I**

- Q.1** What is Computer Network? Discuss design issues of different layers in network architecture. (10)
- Q.2** What is importance of multiplexing? Explain various multiplexing techniques used in computer network. (10)
- Q.3** What is Distance Vector Routing algorithm? Explain with the help of neat diagram. (10)
- Q.4** Explain various IP addressing methods with the help of suitable example. (10)
- Q.5** What is DNS? Explain in brief hierarchical structures of DNS. (10)
- Q.6** Write a Short Note **ANY TWO** of the following:- (10)
- a) ICMP
  - b) Synchronous Transmission
  - c) IMAP
  - d) Broadcast Routing

**SECTION - II**

- Q.7** What is Subnetting? To provide more subnets, a class B address is assigned the subnet mask of 255.255.240.0. How many new subnets are created? List all the subnets and host-IDs under each subnet. (15)
- Q.8** What is Mobile Ad-hoc Network? Explain the properties of Destination Sequence Distance Vector(DSDV) routing protocol. (15)
- Q.9** Design the network layout for an educational organization spread all over India. (15)  
Answer the following :-
- a) Suggest different topologies.
  - b) Suggest type of connecting devices.
  - c) Suggest which IP class should be used.