2018

COMPUTER SCIENCE — GENERAL

Fourth Paper

(Group – A)

Full Marks – 50

The figures in the margin indicate full marks

Candidates are required to give their answers in their own words as far as practicable

Set – 1

Answer ***Question No. 1*** and ***any five*** from the rest

1. Answer ***any five*** questions : 2×5

(a) For n devices in a network, what is the number of cable links required for a mesh topology ?

(b) Why are protocols needed ?

(c) Define bandwidth of a composite signal.

(d) State the functions of network layer in OSI model.

(e) How does guided media differ from unguided media ?

(f) What are browsers ?

(g) What do you mean by 'host' in respect to URL ?

(h) What is ethernet ?

2. (a) Explain necessary criteria for an effective and efficient network. 3

(b) Describe FDM. 5

3. (a) Explain the characteristics and structure of coaxial cable. 6

(b) Write down the applications of microwaves. 2

4. (a) Consider a noiseless channel with a bandwidth of 3000 Hz transmitting a signal with two signal levels. What is the maximum bit rate of this channel ? 2

(b) Explain the characteristics of ASK and FSK. 6

5. (a) Write down the differences between bridges and routers. 3

(b) Explain classful addressing scheme with suitable example. 5

6. (a) What do you mean by ISDN ? 3

(b) Explain the types of connections required by ATM. 5

7. (a) Explain the concepts of MAN and WAN. 4

(b) State the advantage(s) of using star over mesh topology. 4

8. (a) Compare and contrast a traditional cable network with a hybrid fibre coaxial network. 4

(b) What types of services provided by Network Security ? 4

9. Write short notes on ***any two*** of the following : 4+4

(a) Token ring

(b) E-mail

(c) GPS

(d) Distance Vector Routing.