[24-HKPD1SN-24J (M2)]

**M.Sc.IT 1st Semester (NEP) Exam. 2024 (S2)**

*( Fundamentals of Networking and Web Technology )*

[ PGCA, S1-03 ]

*Full Marks* : 70

*Time* : 3 hours

*The figures in the right-hand margin indicate marks.*

1. Answer any *five* from the following questions (each in around 400 words) : $10 \times 5 = 50$

   (*a*) Discuss the benefits of data communication.

   (*b*) Explain any five internetworking devices.

   (*c*) Briefly explain about the star and mesh topology. Also write the differences between Bus topology and Ring topology.

   (*d*) Discuss the advantages and disadvantages of message switching. Differentiate between circuit switching and packet switching.

   (*e*) Explain the functions of different layers of OSI reference model.

   (*f*) How do the layers of the TCP/IP model correlate to the layers of the OSI model ? Explain.

   (*g*) Explain the technology used behind the
   (*i*) Fibre optics table and
   (*ii*) Unguided media

   (*h*) Write short note on the following topics :
   (*i*) IP address and its classes
   (*ii*) DNS Hierarchy

2. Answer any *four* from the following questions (each in around 200 words) : $5 \times 4 = 20$

(*a*) Briefly describe the applications of Internet.

(*b*) Write a function to find the sum of two numbers using Java script.

(*c*) Mention the different types of tags used in HTML and also explain how they are used to structure and format web pages.

(*d*) What is static, dynamic, and active web pages ? How does a web browser interpret and use a URL to retrieve a web page ?

(*e*) Write the differences between HTML and XML.

(*f*) Describe briefly the uses of CSS. Mention the priority of different types of CSS during its uses.