**TIME: 1 HR**

**DATA COMMUNICATION & NETWORKING**

1. (a) Give five factors an organization should consider before choosing a Local Area Network (LAN) model. *(05 marks)*

(a)……
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(b)……
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(c)……
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(d)……
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(e)……
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2. Identify any three devices other than computers require to set up a network within a school environment. *(03 marks)*

(a)……

(b)……

(c)……

b) Distinguish between data communication and networking. *(02 marks)*

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3. (a) Define the term Computer Network. *(02 marks)*

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b) Give three disadvantages of networking computers. *(03 marks)*

(i)……
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(ii)……
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(iii)……..…
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4. (a) Differentiate between a server and a client computer. *(02 marks)*

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b) What is the function of each of the following network devices?

i) Bridge *(01 mark)*

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ii) Switch *(01 mark)*

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iii) Router *(01 mark)*

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iv) Repeater *(01 mark)*

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5. (a) Explain the following terms giving an example in each case

(i) Simplex. *(02 marks)*

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Example

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ii) Half Duplex. *(02 marks)*

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Example

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b) Identify one non-physical data transmission media. *(01 mark)*

| | Tick here |
|---|---|
| Optic fiber | |
| Bluetooth | |
| Twisted pair | |

6. (a) Give **two** wireless transmission media. *(02 marks)*

(i)……

(ii)……

(b) Identify **three** limitations of wireless transmission media. *(03 marks)*

(i)……
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(ii)……
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(ii)……
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7. Explain each of the following terms as used in Information and Communication Technology. *(05 marks)*

(a) Communication

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(b) Network

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(c) Protocol

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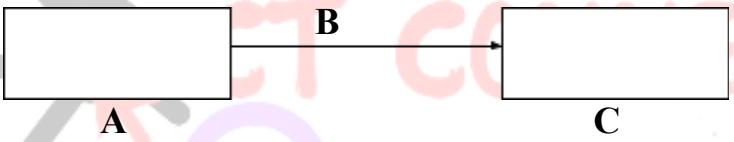
(d) Modem

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(e) Bandwidth

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8.Study the data communication diagram below and answer the questions that follow:




(a) Name the elements of data communication labelled; *(03 marks)*

A. ……

B. ……

C. ……

(b) Suggest the devices used to connect **A** to **B**. *(01 mark)*

……...

(c) State the protocol used to uniquely identify **A** and **C**. *(01 mark)*

……...

9.(a) (i) What is data transmission media? *(01 mark)*

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(ii) Give **two** examples of transmission media. *(02 marks)*

(i)……

(ii)……

(b) Name **two** services offered by data communication tools. *(02 marks)*

(i)……

(ii)……

10.(a) Differentiate between **IP address** and **Domain name**. *(02 marks)*

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(b) Describe each of the following protocols in relation to data communication:

(i) Simple Mail Transfer Protocol (SMTP). (01 mark)

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(ii) Post Office Protocol (POP). *(01 mark)*

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(iii) Hyper Text Transfer Protocol (HTTP). *(01 mark)*

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11.(a) Outline any **two** uses of a server in a computer network. *(02 marks)*

(i) ……

……..

(ii) ……

……..

(b) Name **three** types of computer networks. *(03 marks)*

(i) ……

(ii) ……

(iii) ……

12.(a) Write LAN in full. *(01 mark)*

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(b) Explain the following network models:

(i) Client-server. *(02 marks)*

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(ii) Peer-to-Peer. *(02 marks)*

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13.Identify five wireless communication media which can be used to connect network devices as follows:

(a) Within the same room. *(02 marks)*

(i) ……

(ii) ……

(b) Between users in the same city. *(03 marks)*

(i) ……

(ii) ……

14.(a) Define the term **Communication Protocol** in computer networking. (*02 marks*)

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(b) Give any **two** examples of Communication Protocol. (*02 marks*)

(i) ……

(ii) ……

(c) A network device that converts digital signals into analog and vice versa is called a……..…… *(01 mark)*

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