ST. LAWRENCE HIGH SCHOOL
PRE TEST EXAM – 2018
CLASS – 12

SUBJECT – COMPUTER APPLICATION_SOLUTION
DURATION – 3 HOURS 15 MINUTES

F.M.: 70
DATE - 8.8.2018

GROUP - A

1. <u>Select the correct option:</u>   1X21=21

i) Ability of a system to function even in case of an error in the system is:
   (a) <u>fault tolerance</u>   (b) Error detection   (c)Error handling   (d) None of these

ii) Channel capacity is measured in :
   (a) baud per second   (b) <u>bits per second</u>   (c) channel per second   (d) None of these

iii) The cost of setting a serial communication than parallel communication is:
   (a) Greater   (b) Equal   (c) <u>Lesser</u>   (d) None of These

iv) FCS stands for:
   (a) Frame Collection Service   (b) Fault Check service
   (c) Fault Check Sequence   (d) <u>Frame Check Sequence</u>

v) A satellite which has a time period same as the Earth's rotation time, is called a
   _____ satellite :
   (a) <u>Geostationary</u>   (b) Geo   (c) Geometric   (d) Geosynchronous

vi) In networking NOS stands for :
   (a) Network Open System   (b) <u>Network Operating System</u>
   (c) Network Operating store   (d) Network Open Source

vii) UTP cables use this type of connectors :
   (a) BNC   (b) SC   (c) <u>RJ45</u>   (d) Special data connectors

viii) This topology uses lesser amount of cable length compared to other topologies :
(a) Ring   (b) Star   (c) Mesh   (d) <u>Bus</u>

ix) In Ring topology, to send data, a device has to collect a special electronic message called:
(a) <u>Token</u>   (b) Signal   (c) Baton   (d) Coin

x) The most popular LAN protocol standard is :
(a) Token ring   (b) <u>Ethernet</u>   (c) TCP/IP   (d) PPP

xi) The full form of UDP is :
(a)Uniform Data Protocol   (b) Unique Datagram Protocol
(c) <u>User Datagram Protocol</u>   (d) Universal Data Protocol

xii) Which of the IP address classes are experimental & are reserved for future use?:
(a) A & C   (b)A & D   (c)B & D   (d)<u>D & E</u>

xiii) Which of the following protocols permits users to login & run programs on a remote computer over the internet?
(a) <u>Telnet</u>   (b) TCP   (c) UDP   (d) IP

xiv) What name is given to an organization which provides customers with access to the internet? :
(a) NSP   (b)<u>ISP</u>   (c) WWW   (d) ISOC

xv) The transfer of email between mail servers is done by a protocol :
(a) POP3   (b)IMAP   (c) <u>SMTP</u>   (d) MIME

xvi) Usually domain names of servers used for the World Wide Web begins with :
(a) www   (b) w3c   (c) ftp   (d) <u>http</u>

xvii) NAND gate is called an: :

(a) <u>Universal Gate</u>   (b) Uniform Gate

(c) Unilateral Gate   (d) Unidigital Grade

xviii) How many NAND gates are required to form a NOT gate ?
(a) <u>1</u>   (b) 2   (c) 3   (d) 4

xix) **An encoder is functionally opposite to a :**
   (a) <u>Decoder</u>   (b) Multiplexer   (c) De - Multiplexer   (d) None of these

xx) **What type of software package is MS Excel?**
   (a) <u>Spreadsheet</u>   (b) Presentation   (c) Photo Editing   (d) Word Processing

xxi) **An Excel file is called a :**
   (b) <u>Workbook</u>   (b) Spreadsheet   (c) Document   (d) Presentation

2. <u>Answer the following questions in brief(Alternatives are to be noted)</u> :   1X14 = 14

i)   **State any one important use of computer networking.**
     A: File sharing: Networking of **computers** helps the **network** users to share data files.
     Hardware sharing: Users can share devices such as printers, scanners, CD-ROM drives, hard drives etc

ii) **When a network is called a point-to-point network?**
     A: In modern computer networking, the term point-to-point telecommunications means a wireless data link between two fixed points.

                                    OR
     What do you mean by Half Duplex communication?
     A: In a half-duplex system, both parties can communicate with each other, but not simultaneously; the communication is one direction at a time. An example of a half-duplex device is a walkie-talkie two-way radio that has a "push-to-talk" button; when the local user wants to speak to the remote person they push this button, which turns on the transmitter but turns off the receiver, so they cannot hear the remote person. To listen to the other person they release the button, which turns on the receiver but turns off the transmitter.

iii) **State the full form and one function of NIC in networking.**
     A: NIC : Network Interface Card
     computer hardware component that connects a computer to a computer network.

iv) **Write the full form of UTP cable.**
     A: Unshielded twisted pair

v)   **What is client server computation ?**

A: Client/server is a program relationship in which one program (the client) requests a service or resource from another program (the server). Although the client/servermodel can be used by programs within a single computer, it is a more important concept for networking

vi) **Name the most widely used LAN protocol.**

A: Ethernet

OR

Write the full form of CSMA with connection to a LAN.

A: Carrier-sense multiple access

vii) **State two important differences between LAN and WAN.**

viii) **What does the first part (e.g. http://) of a URL signify ?**

A: HTTP means HyperText Transfer Protocol. ... For example, when you enter a URL in your browser, this actually sends an HTTP command to the Web server directing it to fetch and transmit the requested Web page.

OR

What is the main use of Telnet protocol?

A: Telnet is a simple, text-based network protocol that is used for accessing remote computers over TCP/IP networks like the Internet.

ix) **What is the main function of an ISP?**

A: Internet Service Providers serve large companies by providing a direct connection from the company's network to the internet. Provides internet services like email, access to software tools, security service and Web hosting.

x) **State any one use of the World Wide Web.**

A: The Web, or World Wide Web (W3), is basically a system of Internet servers that support specially formatted documents. The documents are formatted in a markup language called HTML (HyperText Markup Language) that supports links to other documents, as well as graphics, audio, and video files.

OR

What is the function of a web browser?

A: A web browser, or simply "browser," is an application used to access and view websites. Common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari. The primary function of a web browser is to render HTML, the code used to design or "mark up" webpages.

xi) **Write the expanded output expression for a XOR operation with the inputs A & B.**

A: $\bar{A}.B + A.\bar{B}$

xii) **Why NAND gate is called Universal gate?**

A: Because working of all the Basic logic gates i.e. , AND, OR & NOT can be derived from NAND gate alone.

xiii) **State one difference between a workbook and a worksheet in Excel.**

A: Essentially, workbooks are the Excel files that you can open and send back and forth with your colleagues, while Excel worksheets are individual spreadsheets within them. If you see multiple tabs in Excel files, each of those is a worksheet, while the entire file is a workbook.

xiv) **What is the extension of a file in Excel 2007?**
   A: .xlsx

OR

By default how many worksheets are displayed when a new workbook is opened?
   A: By default, Microsoft Office Excel provides three worksheets in a workbook

GROUP – B

3. **Answer the following questions (Alternatives are to be noted):**   **7X5 = 35**

i) **(a) State four differences between synchronous & asynchronous communication**
   A:

Difference between asynchronous and synchronous data transmission

Sr.no	asynchronous	synchronous
1	Transfer one character at a time	Transfer a group or block of character at a time
2	Low data transfer rate	High. Data transfer rate
3	Sysnchronous character is not used.	Sysnchronous character is used.
4	Start and stop bit is added in each character	No. Start and stop bit is added in each character

(b) Define Bandwidth.
A: Bandwidth is the capacity of a wired or wireless network communications link to transmit the maximum amount of data from one point to another over a computer network or internet connection in a given amount of time -- usually one second. Synonymous with capacity, bandwidth describes the data transfer rate.
   (c) What will be the value of the odd parity bit for the data 111101 ?
      A: 0

                                                                          4+2+1

ii) **(a) Write a short note on Network Interface Card.**

   A: A network interface card (NIC) is a circuit board or card that is installed in a computer so that it can be connected to a network.

A network interface card provides the computer with a dedicated, full-time connection to a network. Personal computers and workstations on a local area network (LAN) typically contain a network interface card specifically designed for the LAN transmission technology

(b) State any three advantages of UTP cable in a computer network.

A:
- Cost - cheaper than the STP.
- Maintenance - As there is no foil to break and bo? grounding cable, there is less to break. This reduces the need to find a small tear in the foil.
- Installation - No need for extra special care to be taken of the cables during installation.
- Size - smaller and less sensitive makes it easier to squeeze them into tight spaces.
- Ubiquity - Use in most situations so there are more common.

4+3

OR

(a) Briefly describe the uses of any two types of wireless media in communication.

(b) What is a Geostationary Satellite ?

A: A geostationary satellite is an earth-orbiting satellite, placed at an altitude of approximately 35,800 kilometers (22,300 miles) directly over the equator, that revolves in the same direction the earth rotates (west to east).

(3+3)+1

iii) (a) Differentiate between Repeater & Bridge.

A:

Differences Between Bridges and Repeaters

	Repeaters	Bridges
OSI layer	Physical layer	Data link layer
Data regeneration	Regenerate data at the signal level	Regenerate data at the packet level
Reduce network traffic	No	Yes

(b) Explain the meaning of the terms CSMA & CD in connection with Ethernet protocol.

A: Carrier-sense multiple access with collision detection (CSMA/CD) is a media access control method used most notably in early Ethernet technology for local area networking. It uses carrier-sensing to defer transmissions until no other stations are transmitting. This is used in combination with

collision detection in which a transmitting station detects collisions by sensing transmissions from other stations while it is transmitting a frame.

(c) **What is a token ?**

A: A token is a special frame that is passed from node to node around a ring network. When it gets to a node that needs to transmit data, the node changes the token into a data frame and transmits it to the recipient.

3+3+1

OR

(a) **Write the full forms of :**
1. **FTP – File Transfer Protocol**
2. **DNS – Domain Name System**
3. **URL – Uniform Resource Locator**
4. **ISDN - Integrated Services Digital Network**
5. **MODEM – Modulator Demodulator**
6. **CSMA/CD - Carrier-sense multiple access with collision detection**
7. **ISP   - Internet Service Provider**

7

iv) (a) **Write the code to insert an image "mypic.jpg" in a webpage.**
(b) **State two differences between the <ol> and <ul> tags.**
(c) **Show how you can create a link between two pages in HTML**

1+2+4

v) (a) **Draw the truth table for a NAND operation**
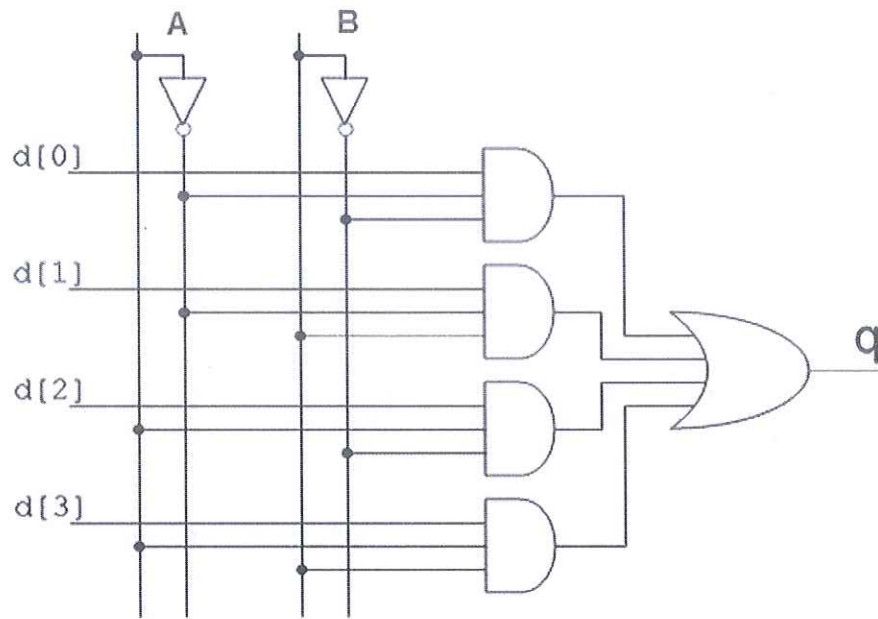**A:**

Table 5.6 : Truth table for NAND gate

INPUTS		OUTPUTS
A	B	$Y = (A . B)'$
0	0	1
0	1	1
1	0	1
1	1	0

(b) **Draw the circuit diagram of a 4X1 multiplexer circuit.**
A:

(c) State one use each of a De - Multiplexer & a Decoder.

1+4+2

OR

(a) Show that NOR gate is universal.
   A: Derive all Basic gates from NOR
(b) Name any two types of charts that can be made in MS Excel.
   A: Pie, Column, Line, Bar, Area, and Scatter.

(2+2+2)+1

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