

All Board-2018

Time : 2 hours 35 Minutes

Information and Communication Technology

Subject Code : 275

Creative Question

Marks : 50

[N.B. Answer any five questions. The figures in the right margin indicate full marks.]

1.► Scientists of the research organisation Alpha are trying to make a machine in nano scale that can apply medicine directly in the infected cell. They has created a simulated environment to observe the internal structure of brain and cell.

- a. What is Telemedicine? 1
- b. Artificial intelligence in one kind of expert system – Explain. 2
- c. Explain the technology used in the observation by scientists. 3
- d. Analyze the impact of the technology used for making machine as mentioned in stem puts on food industries. 4

2.★ Mohon, a member of Green Bangla club captured some picture about environmental disaster by his mobile phone camera and transfer them to the laptop using a special protocol of IEEE 802.15 standard. Later, Mohon sent the pictures to the mobile phone of other members of the club using SHARE it.

- a. What is router? 1
- b. Explain the bandwidth of data transfer from key board to computer. 2
- c. Explain the network that is used to transfer the picture to the laptop as mentioned in stem. 3
- d. Compare the hotspot used to send picture to the other members of club with Wimax. 4

3. ▶

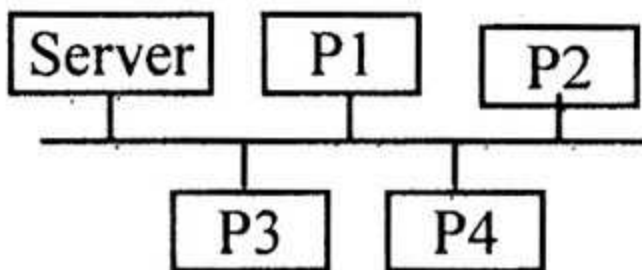


Figure-1

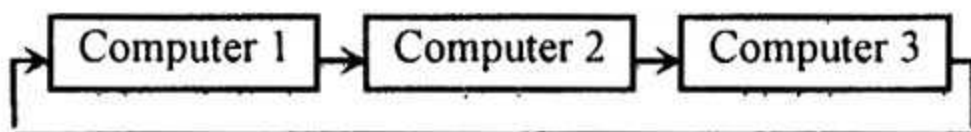


Figure-2

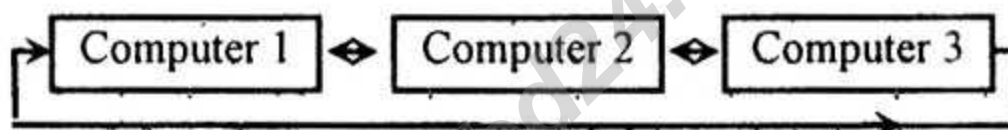
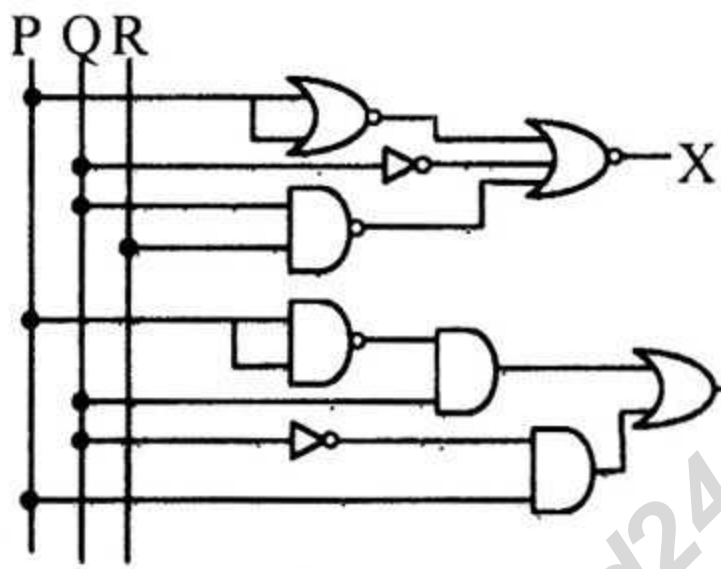


Figure-3

- What is synchronous transmission? 1
 - Internet can be used with the help of 3rd generation mobile— Explain. 2
 - Explain the network topology as indicated in figure-1. 3
 - Between the network topologies as indicated in figure-2 and figure-3 which one is suitable? Analyze and give your opinion. 4
4. ★ In ICT exam, Rana and Sumi got $(62)_8$ and $(2F)_{16}$ number respectively out of $(110010)_2$.
- What is Code? 1
 - Explain 3- based number system. 2
 - Convert full marks of IT in decimal as mentioned in stem. 3

- d. The difference between the secured numbers of Rana and Sumi in ICT can be determined by addition — Analyze mathematically. 4

5. ▶



- a. What is counter? 1
 b. If all inputs of a NOR gate are same then the gate works as a fundamental gate — Explain. 2
 c. Show the value of Y in truth table. 3
 d. Implement simplified value of X using NOR gate. 4

6. ★ A website has been designed for "Chandana Model College" using HTML only. There is a picture named ict.jpg of size 200×300 px in the home page of the site. There have a link of notice page named notice.html under the picture. The text "Welcome to Chandana Model College" is displayed on the top of the picture in blue colour. There is no arrangement to give visitors opinion in that website.

- a. What is web portal? 1
 b. Why hosting is necessary? Explain. 2

- c. Write down the HTML Code to develop the Home page as mentioned in stem. 3
- d. Explain necessary steps taken so that visitors can give their opinion in website. 4

7.► In annual sports students of eleven class are divided in three groups A, B and C. Students having roll no 1 to 30 will be in group "A", 31 to 60 will be in group "B" and 61 to 100 will be in group "C".

- a. What is object program? 1
- b. "C" is a case sensitive language — Explain. 2
- c. Write down the algorithm to make the group as mentioned in stem. 3
- d. Write down a program in "C" language using conditional statement to make the group. 4

8. ★

TID	TName	Subject
101	Mr. Monir	English
102	Mr. Niloy	ICT
103	Mr. Nur	Biology

Teacher's Table

TID	Group	Time
101	Science	10:00
101	Humanities	10:45
102	Science	10:45
102	B. Studies	10:00
103	Scienc	11:30

Routine Table

- a. What is cipher text? 1
- b. Explain query command "Select Roll, Name From Students," 2
- c. Explain the data type of the fields of Teacher Table. 3
- d. Which type of relation can be developed between the tables of the stem? Analyze. 4

Time : 25 minutes

Full marks : 25

[N. B. Answer all the questions. Each question carries one mark. Block fully, with a ball point pen, the circle of the letter that stands for the correct/best answer in the "Answer Sheet" for Objective Type Examination.]

1. Which technology is used for changing and controlling metallic substances in molecular stage?

- (a) Robotics (b) Nanotechnology
(c) Biometrics
(d) Genetic Engineering

2. Biometrics technology can be used in—

- i. National identity card
ii. Passport
iii. Birth registration

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

3. How many different characters can be coded by UNICODE?

- (a) 8 (b) 16
(c) 256 (d) 65536

4. Which one is the next value of the sequence 4, 8, C?

- (a) D (b) F
(c) 10 (d) 16

5. for (i = 1; i <= 5; i++)

```
{if (i == 3) continue;
printf ("HSC Exam");
}
```

How many times "HSC Exam" will be displayed in the program of the stem?

- (a) 1 (b) 2
(c) 4 (d) 5

6. In which topology first and last computers are connected directly?

- i. Bus ii. Ring
iii. Mesh

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

7. By which device the signal of the sender computer can be sent to the specific receiver computer?

- (a) Hub (b) Switch
(c) Repeater (d) Bridge

8. In what type of network WiMax is used?

- (a) PAN (b) LAN

- (c) MAN (d) WAN

Read the following stem and answer the question no. 9 and 10 :

Rasel send a message to his some specific friends via SMS using 4G mobile.

9. Which mode is used for sending the message?

- (a) Simplex (b) Full duplex
(c) Multicast (d) Broadcast

10. It is possible by using the technology used in Rasel's Mobile—

- i. Data transmission in circuit switch method
ii. IP based wireless network implementation
iii. Data transfer in three dimension environment

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

11. The equivalent value of $(110110)_2$ —

- i. $(66)_8$ ii. $(54)_{10}$
iii. $(36)_{16}$

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

12. In which gate output will be 1 if all the given inputs are 0.

- i. NAND ii. NOR
iii. X-NOR

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

Observe the following figure and answer the questions no. 13 and 14 :



13. Which one is the value of F?

- (a) AB (b) $\bar{A}B$
(c) $A\bar{B}$ (d) $\bar{A}\bar{B}$

14. **★** The X-NOR gate can be replaced by which gate to get the output '0'?

- (a) AND (b) OR
(c) NAND (d) NOR

15. Which tag doesn't contain element?

- i. < br > ii. < img >
iii. < u >

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

16. Which tag is used for linking webpages?

- (a) < a > (b) < i >
(c) < href > (d) < li >

Read the following stem and answer the questions no. 17 and 18 :

Didar and his friends developed a website where the webpages arranged in multiple layers. Subsequently they had taken the necessary steps to display the website in the internet.

17. Which one is the structure of the website?

- (a) Linear (b) Hierarchical
(c) Hybrid (d) Network

18. Steps taken are —

- i. Domain name registration
ii. To equalize the size of webpages
iii. Website hosting

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

19. **★** In program development the next step after the "program design" is —

- (a) problem analysis
(b) program coding
(c) program implementation
(d) program maintenance

20. Look at the variables of C language —

- i. student_name ii. student name

iii. student@name

Which one is correct?

- (a) i (b) iii
(c) i and iii (d) i, ii and iii

21. **★** In C-language which one is used to store same type data?

- (a) Function (b) Pointer
(c) Structure (d) Array

22. Data type used for sorting can be —

- i. Text ii. Currency
iii. OLE objects

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

Read the following stem and answer the questions no. 23 and 24 :

Principal of a college has taken a decision to store all information of the institution by database. After implementing the decision he has taken initiative to represent the list of weak students separately.

23. Which method is used to represent the list?

- (a) Sorting (b) Indexing
(c) Query (d) Encryption

24. By implementing the decision of principal —

- i. every types of security for information can be provided
ii. information can be arranged in any type
iii. data of the students can be presented quickly

Which one is correct?

- (a) i and ii (b) i and iii
(c) ii and iii (d) i, ii and iii

25. Which process is used to convert the main data into another format?

- (a) Manipulation (b) Validation
(c) Encryption (d) Decryption

Ans.

1	(b)	2	(d)	3	(d)	4	(d)	5	(d)	6	(c)	7	(b)	8	(d)	9	(c)	10	(d)	11	(d)	12	(a)	13	(c)
14	(d)	15	(a)	16	(a)	17	(b)	18	(d)	19	(c)	20	(c)	21	(d)	22	(a)	23	(c)	24	(d)	25	(c)		