

Model Question of HSC Examination-2020(All Board)

Time : 2 hours 35 Minutes

Information and Communication Technology

Subject Code : 275

Creative Question

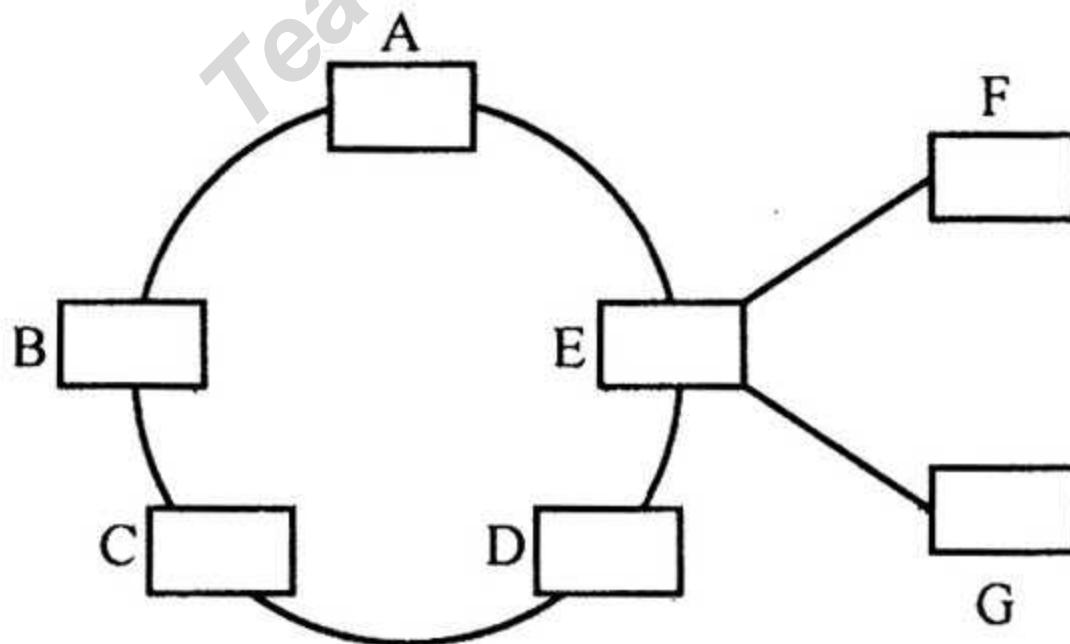
Marks : 50

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

1. ► At present with the blessings of ICT and modern science, the lives of people are becoming more comfortable day by day. The safety measures and risk of lives are becoming safer than previous time. Now the machine can think, response, behave, work as like as human being. We cannot imagine what will happen in future.

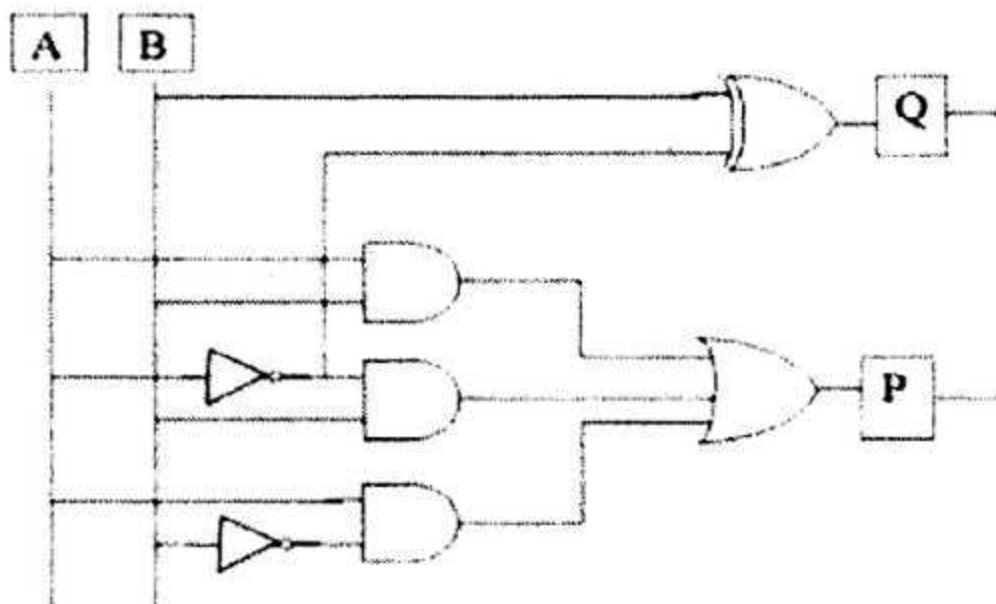
- What is Fuzzy logic? 1
- What perceptions are used to make a Robot? 2
- How can the domains of Artificial Intelligence (AI) play vital role to make responsible machine? Explain. 3
- "The machine is taking the place of human"— Analyze the negative impacts of the statement. 4

2. ★ Observe the following figure.



- What is CDMA? 1
- "Fiber optic cable is free from EMI"— Explain. 2

- c. What types of problem will be occurred in data transmission if the device E goes to disorder? Explain. 3
- d. What type of arrangement can be arranged to accelerate the speed of data transmission among the devices A, B, C and D? Analyze. 4
3. ► Mr. Kamal is a college teacher. The newspaper bill and electric bill of Mr. Kamal are $(F6.C)_{16}$ and $(7)_8$ respectively in a month. One day he asked his two students Farid and Maidul how much marks did they get in ICT in the last exam. Farid said that he got $(89)_{10}$ marks and Maidul said that he got $(65)_{10}$ marks.
- a. What is Boolean Postulates? 1
- b. Write down the De-Morgan's Theorem for n-number of variables. 2
- c. Express the summation of newspaper bill and electric bill of Mr. Kamal in Hexadecimal number. 3
- d. Find out the difference between the ICT marks of Farid and Maidul using 2's complement system. 4
4. ★ Observe the following equation :



- a. What is asynchronous counter? 1
 - b. Explain the methods of formation of negative number in computer system. 2
 - c. Is it possible to implement the value of Q using NAND gate? Explain with necessary expression and figure. 3
 - d. What step should be taken for getting output AB, where P and Q are used as input in the following circuit? Analyze. 4
5. ► Observe the following table.

GSM	Grameenphone
	Airtel
	Banglalink
CDMA	Citycell

- a. What is a dynamic website? 1
 - b. Explain the differences between domain and hosting. 2
 - c. Write down HTML code for creating the mentioned table in the stem. 3
 - d. Write necessary code for adding picture "picture.jpg" instead of text GSM and modify the text CDMA as hyperlinle in the stated table. 4
6. ► Bangladesh wins the toss in a cricket match against Pakistan and bats first. After batting of Bangladesh, Tamim, Soumya and Shakib runs are a, b and c respectively. Everybody wishes that Bangladesh will win.
- a. What is debugging? 1

- b. Explain the difference types of programming error. 2
- c. According to the stem, draw the flowchart to find out the average runs of Tamim, Soumya and Shakib. 3
- d. Write down C program to find out the highest run among the three bats man in the stem. 4

7. ★ Observe the following series.

$$2^2 + 4^2 + 6^2 + \dots + n^2$$

- a. What is keyword? 1
- b. Write differences between `i++` and `++i` with examples. 2
- c. Draw flowchart for the series stated in the stem. 3
- d. Write C program for the series stated in the stem using For and Do while loop. 4

8. ★ Observe the following tables.

ID	Name	Age
001	Sakib	17
002	Zarif	17
003	Mrinal	18

Student Table

ID	Course Name	Course Fee (Taka)
001	Physics	500
002	ICT	600
003	Chemistry	700

Course Table

- a. What is OLE? 1
- b. What are the difference between Data and Information? 2
- c. What is SQL? Write down SQL command to display ID, Name and Age from "Student Table" whose Age less than 18. 3
- d. What type of relation can be made between two tables in the stem? give logic for your answer. 4

[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. In which generation's computer, Artificial Intelligence is implemented?

- (a) 4th (b) 3rd
(c) 5th (d) 6th

2. Actuator is used in—

- (a) Biometrics
(b) Virtual Reality
(c) Robotics
(d) Bioinformatics

3. Which is the example of Behavioral data?

- i. Voice
ii. Signature
iii. Typing Keystroke

Which one is correct?

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

4. Function of a modern are—

- i. To store data
ii. To send data
iii. To receive data

Which one is correct?

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

5. Which is the largest number?

- (a) $(1000)_2$
(b) $(11)_8$
(c) $(7)_{16}$ (d) $(1010)_2$

6. Equivalent to $(ABC)_{16}$ is—

- i. $(1010101111100)_2$
ii. $(5274)_8$
iii. $(73)_{10}$

Which one is correct?

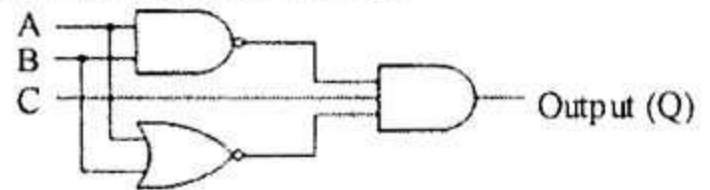
- (a) i, ii & iii
(b) i & ii
(c) i & iii
(d) ii & iii

7. What is the EBCDIC code of $(5)_{10}$?

- (a) 00110010

- (b) 11110010
(c) 10110101
(d) 11110101

Read the following stem and answer the question no. 8 & 9.



8. What will be the expression of Q?

- (a) $(\overline{A.B}).(\overline{A+B}).C$
(b) $(\overline{A+B+C})$
(c) $(B+C).(A+C)$
(d) $(A.B+C)$

9. Q = 0, When—

- i. A=0, B=0, C=1
ii. A=1, B=0, C=0
iii. A=0, B=1, C=1

Which one is correct?

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

10. The theorem $A+BC=(A+B)(A+C)$ is—

- (a) Associative theorem
(b) Distributed theorem
(c) Basic theorem
(d) Commulative theorem

11. To publish website—

- i. Web page is to make
ii. Web page is to do hosting
iii. The domain name is to register

Which one is correct?

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

12. The 3rd part of URL is—

- (a) File
(b) Path
(c) Domain name
(d) Protocol

13. **★** What is called the process of storing text, graphics, audios, videos etc. in a server?
- Testing
 - Web hosting
 - Debugging
 - Web registration

14. Which one is 4G language?

- OPSS
- Prolog
- C
- SQL

15. Which is logical operator?

- >
- !=
- ||
- +++

Read the following stem and answer the question no. 16 & 17.

```

Box-1
#include<stdio.h>
main()
{
int i;
for(i=0;i<7;i++)
{
printf("\nCCC");
}
}

```

```

Box-2
#include<stdio.h>
main()
{
int i=3, j;
j=++i;
printf("%d", j);
}

```

16. How many times "CCC" will be displayed for Box-1 program?

- 7
- 6
- 8
- 5

17. What will be the output of Box-2?

- 5
- 4
- 3
- 2

18. In C, += is what type of operator?

- Arithmetic
- Assignment
- Bitwise
- Comma

19. Keywords are—

- break, continue
- goto, case
- avg, roll

Which one is correct?

- i & ii
- i, ii & iii
- ii & iii
- i & iii

20. **★** For what type of error in the program does computer signal?

- Data
- Logical
- Syntax
- Any error

21. Which one is incorrect variable declaration?

- int main;
- int Roll;
- int Roll-5;

Which one is correct?

- i & ii
- i, ii & iii
- ii & iii
- i & iii

22. If a=2, then what will be the value of a after 1st left shift operation?

- 0
- 16
- 4
- 1

23. Output statements are—

- printf()
- gets()
- puts()

Which one is correct?

- i & ii
- i, ii & iii
- ii & iii
- i & iii

24. **★** What is the relation between foreign and primary key?

- one to many
- many to one
- one to one
- many to many

25. By declaring which data type, we can take maximum number of letters?

- Number
- Text
- Logical
- Memo

Ans.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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