

# 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.]

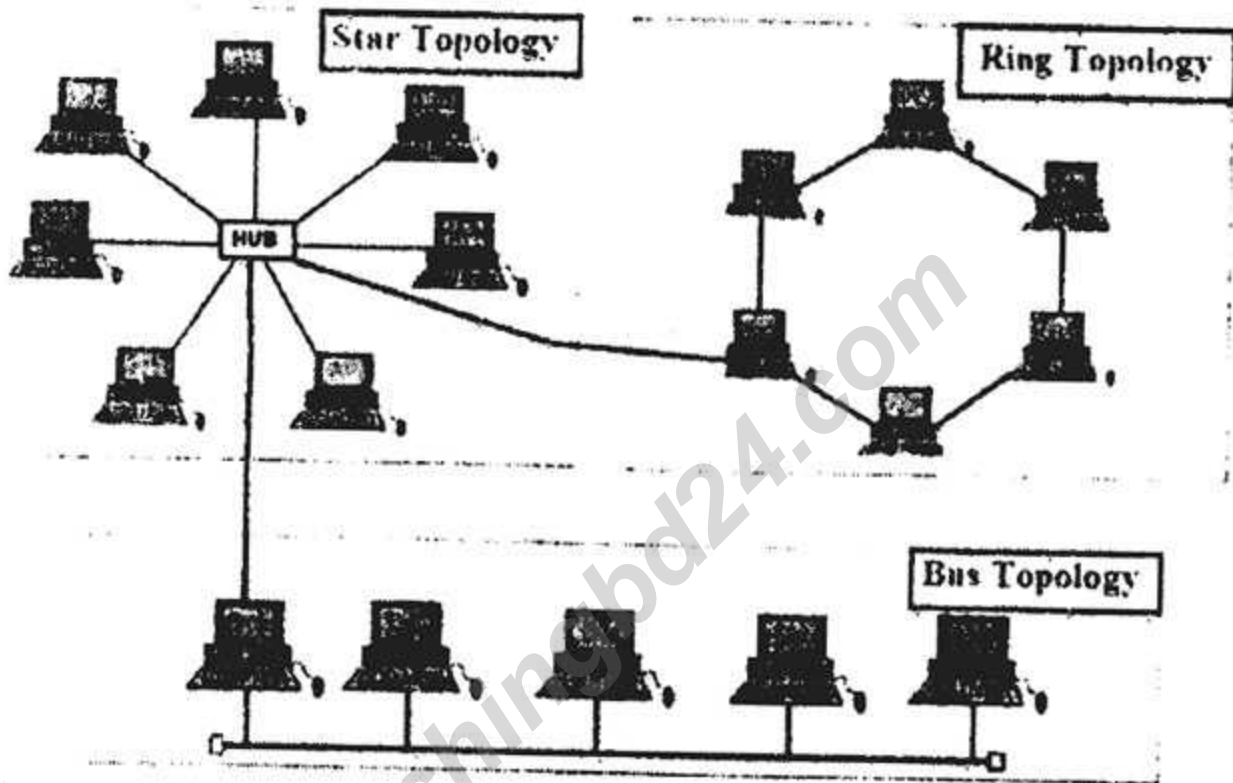
1. ► The most common biometric features used for employee identification are faces, fingerprints, finger veins, palm veins, irises and voice patterns. Even government organizations now rely on biometrics for ensuring timely attendance of staff and accurate payroll calculations.

- a. What is Robotics? 1
- b. What do you mean by virtual reality? 2
- c. Write down the advantages and disadvantages of biometric. 3
- d. How biometric system can be used for ensuring timely attendance of staff and accurate payroll calculation? Explain it with your own opinion. 4

2. ★ Data transfer is the process of using computing techniques and technologies to transmit or transfer electronic or analog data from one computer node to another. Data is transferred in the form of bits and bytes over a digital or analog medium. Data is transfer either serial or parallel method. Serial and bytes over a digital or analog medium. Data is transfer either serial or parallel method. Serial data transmission method is also divided into asynchronous, synchronous and isochronous method.

- a. What is parallel transmission method? 1
- b. Classify data transmission mode. 2

- c. Explain the data transmission method that is used for transferring data from keyboard to computer processor. 3
- d. Why isochronous data transmission method is best over synchronous & asynchronous? Explain the reasons. 4
3. ► Consider the figure and answer the following questions.



- a. What is computer network? 1
- b. What do you mean by cloud computing? 2
- c. Write the advantages and disadvantages of star topology? 3
- d. Base on connectivity which topology is best? Explain its working principal with diagram. 4

4. ★ Logic gate is a basic building block of digital circuit. Each logic gate have a unique properties. For a specific input it produce a specific output. NAND and NOR are two special types of logic gate. Any logic gate can be implemented by these logic gate. For this reasons these gates are called universal logic gate.

- a. What is Boolean algebra? 1



- b. Draw a full adder circuit using two half adder. 2
- c. Prove that NAND and NOR gate is universal logic gate? 3
- d. By using only NOR implementing XOR and XNOR with block diagram. 4
5. ► Algorithms are the building blocks of computer programs. They are as important to programming. An algorithm is a well-defined procedure that takes input and produces output. A flowchart is a pictorial representation of an algorithm.
- a. What is compiler? 1
- b. What is the difference between  $++i$  and  $i++$ ? 2
- c. Write an algorithm for finding the height value among three integers. 3
- d. Draw a flowchart of algorithm 5(c). 4
6. ★ Decision making structures require that the programmer specifies one or more conditions to be evaluated or tested by the program, along with a statement or statements to be executed if the condition is determined to be true, and optionally, other statements to be executed if the condition is determined to be false. On the other hand looping means executing statement or statements again and again until some condition will be false.
- a. What is identifier? 1
- b. Write down the naming rules for identifier? 2
- c. Explain the general structure of *else if* ladder with block diagram. 3
- d. Write a complete C program that read a positive integer as input and generate multiplication of all digits as output using *while* loop. 4

7. ► A Relational Database Management System (RDBMS) is a software system that provides access to a relational database. The software system is a collection of software applications that can be used to create, maintain, manage and use the database. A "relational database" is a database structured on the "relational" model. Data are stored and presented in a tabular format, organized in rows and columns with one record per row.

- a. What is database? 1
- b. What is the difference between primary key and foreign key? 2
- c. Write down the applications of Relational Database Management System (RDBMS). 3
- d. Explain all types of relations among data table? 4

8. ► Consider the following HTML template and answer the following questions.

Header	
<u>Home</u>	Page Content
<u>About Us</u>	
<u>Facilities</u>	
<u>Contact Us</u>	
Footer	

- a. Write the syntax of HTML image tag. 1
- b. What do mean by dynamic web page? 2
- c. Explain the necessary steps of publish the HTML template in worldwide. 3
- d. Write the complete HTML document for the template. 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. **Television is a —**  
 (a) Sender  
 (b) One-way communication system  
 (c) Two-way communication system  
 (d) Telecommunication system

2. **Which is the market place of out sourcing?**  
 (a) Twitter                      (b) My space  
 (c) odesk                         (d) Digg

3. **Cryosurgery applied in treatment of —**  
 i. Breast cancer  
 ii. Prostate cancer  
 iii. Liver cancer

**Which one is correct?**

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

4. **What do you mean by 'CAD'?**  
 (a) Computer aided direction  
 (b) Control aided design  
 (c) Computer aided design  
 (d) Control aided direction

5. **Computer crime is —**  
 i. software piracy  
 ii. plagiarism  
 iii. data still

**Which one is correct?**

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

6. **Which is the full form of bps?**  
 (a) bit per second  
 (b) by the per second  
 (c) binary per second  
 (d) bit per system

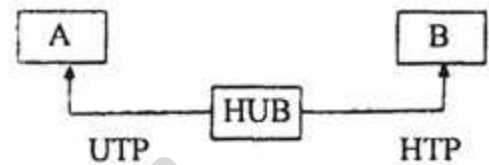
7. **Wi-Max is —**  
 i. A type of wireless network  
 ii. Technology of providing wireless broad band service  
 iii. Technology of transferring data between one more digital device

**Which one is correct?**

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

8. **When is 3G started commercially?**  
 (a) 1989                        (b) 1995  
 (c) 2001                        (d) 2000

**Look at the picture and answer the question no 9 and 10 :**



9. **What type of topology is shown in the picture?**

- (a) Star                        (b) Ring  
 (c) Bus                        (d) Mesh

10. **What should be done to ensure highest speed of data transmission between A and B —.**

- i. switch can be used in the place of HUB  
 ii. router can be used in the place of HUB  
 iii. optical fiber cable can be used in the place of twisted pair cable

**Which one is correct?**

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

11. **Which unit used to measure the memory?**

- (a) Bit                         (b) Byte  
 (c) Kilobyte                (d) Megabyte

12. **Who is the inventor of octal system?**

- (a) Gottfried Leibniz  
 (b) King 10<sup>th</sup> Charles  
 (c) Al khwarizmi        (d) Al hazen

13. **(19)<sub>10</sub> = ( )<sub>2</sub>?**

- (a) 10001                    (b) 10011  
 (c) 11111                    (d) 10110

14. **★** What is the BCD code of  $(72)_{10}$ ?

- (a)  $(11100100)_{BCD}$
- (b)  $(11110000)_{BCD}$
- (c)  $(01110010)_{BCD}$
- (d)  $(00001111)_{BCD}$

15. Who is the inventor of logic algebra?

- (a) Goerge till
- (b) George Boole
- (c) Newton
- (d) Pascal

16. Which gate is indicated by the equation  $F=(A+B) + C$ ?

- (a) AND                      (b) OR
- (c) NOT                      (d) NOR

17. Which gate is represented by the following truth table?

Input	Output
0	1
1	0

- (a) AND
- (b) OR
- (c) NOT
- (d) X-OR

18. "C" is a —

- (a) Operating system
- (b) Package program
- (c) High programming language
- (d) Lower level programming

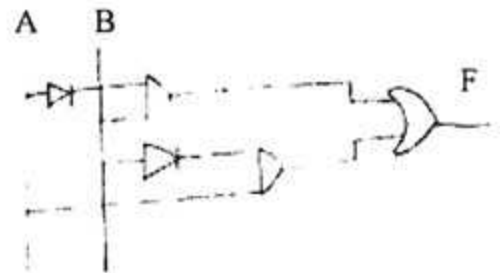
19. Symbol  means —

- i. Input
- ii. output
- iii. processing

Which one is correct?

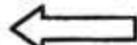
- (a) i & ii                      (b) i & iii
- (c) ii & iii                      (d) i, ii & iii

20. **★** Look at the figure:



What will be the value of F?

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

21.  What types of operator?

- (a) Arithmetic                      (b) Relational
- (c) Logical                      (d) Less or equal

22. Which is correct sequence to create a data file?

- (a) letter → field → record → database
- (b) field → record → table → database
- (c) Record → field → Information → database
- (d) Record → field → letter → database

23. **★** Query is applied for —

- i. Data input
- ii. Data update
- iii. Data delete

Which one is correct?

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

24. How many letters can be used for text type data?

- (a) 128                      (b) 155
- (c) 255                      (d) 512

25. Which is the largest data type?

- (a) Text                      (b) Number
- (c) Currency                      (d) Memo

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