SOF OLYMPIADS

I CS O
SOF INTERNATIONAL
COMPUTER SCIENCE OLYMPIAD

Total Questions : 50   Time : 1 hr.

PATTERN & MARKING SCHEME				
Section	(1) Logical Reasoning	(2) Computer Science	(3) AI, Robotics and Information Technology	(4) Achievers Section
No. of Questions	10	30	5	5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : Verbal and Non-Verbal Reasoning.

Section – 2 : Fundamentals of Computer (Hardware, Software, I/O Devices, Memory and Storage Devices, Basics of IT and Number System), Operating System, MS-Word, Networking, MS-PowerPoint, MS-Excel, HTML & CSS, Cyber Safety, Database Management System (Functions, Types, MS-Access), Using Windows 11, Programming in Scratch, Programming in Python 3.13 (as of December 2024), Programming in Visual Basic.

Section – 3 : AI, Robotics, IT Gadgets, Devices, Apps, Computerization and other Developments in the Field of IT.

Section – 4 : Higher Order Thinking Questions - Syllabus as per Sections 2 and 3.

Questions are based on Windows 11 and MS-Office 2016.

LOGICAL REASONING

1. Point T is to the East of point O and North of point M, which is to the North of point N. Point K is to the South of point S. Point S is to the West of point N and South of point O. In which direction is point M with respect to point S?
(A) North-East
(B) South-West
(C) South
(D) North

2. If it is possible to form only one meaningful English word with the second, third, fifth, sixth and eighth letters of the word YOUNGSTER, then which of the following will be the second letter of that word? If no such word can be formed, then give 'X' as your answer and if more than one such word can be formed, then give 'Y' as your answer.
(A) N
(B) G
(C) X
(D) Y

3. Which of the following figures is exactly embedded in the given figure as one of its parts?
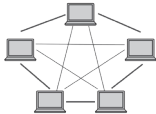

(A)   (B)   (C)   (D)

COMPUTER SCIENCE

4. Identify the following.
- It is a form of computer that uses continuous physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.
- Differential Analyzers and Slide Rules are examples of such type of computer.

(A) Analog computer   (B) Digital computer
(C) Hybrid computer   (D) Both (A) and (B)

5. Which of the following is correct binary representation of the given octal number?

(345)

(A) 011000101   (B) 01100010   (C) 111000101   (D) 011100101

6. Identify the following with respect to cyber ethics.
- The programmers who break into secure systems for malicious purpose.
- They are more interested in gaining information about computer systems.

(A) Malware   (B) Hackers   (C) Spyware   (D) Worms

AI, ROBOTICS AND INFORMATION TECHNOLOGY

7. Which of the following technologies enables the collection of a single, secure ledger that is updated only when all the linked computers have been nodes within the network to verify the transactions?

(A) Blockchain   (B) Cloud computing
(C) Data analytics   (D) Virtual reality

8. Which of the following statements hold(s) true about the given icon?
Statement 1 : It is a remote access software that allows users to connect to another computer from anywhere in the world.
Statement 2 : It is a type of attack that occurs when criminals hijack web protocols to steal data.

(A) Only Statement 1   (B) Only Statement 2
(C) Both Statement 1 and Statement 2   (D) Neither Statement 1 nor Statement 2

ACHIEVERS SECTION

9. Select the correct characteristics of the type of networking topology shown in the given image.
(i) Such topology can handle large amount of traffic as multiple nodes can simultaneously transmit data.
(ii) Failure of a single device won't break the entire network.
(iii) Provides high privacy and security.

(A) (i) and (ii) only   (B) (ii) and (iii) only   (C) (i) and (iii) only   (D) (i), (ii) and (iii)

10. Which of the following statements are correct regarding Database Management System?
(i) It is a collection of data.
(ii) It provides an abstract view of data that hides the details.
(iii) It is a computerized record-keeping system.
(iv) It allow users to define, store, retrieve and update the information contained in the database.

(A) (i) and (ii) only   (B) (ii) and (iii) only
(C) (i), (ii) and (iv) only   (D) (i), (ii), (iii) and (iv)

ANSWER KEY

1. (A)   2. (C)   3. (B)   4. (A)   5. (D)   6. (B)   7. (A)   8. (A)   9. (D)   10. (D)

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