

Bloom Computer Olympiad Sample Paper

Maximum Time : 60 Minutes

Maximum Marks : 60

INSTRUCTIONS

1. There are 50 Multiple Choice Questions in this paper divided into two sections.

Section A 40 MCQs; 1 Mark each

Section B 10 MCQs; 2 Marks each

2. Each question has Four Options out of which **ONLY ONE** is correct.
3. All questions are compulsory.
4. There is no negative marking.
5. No electric device capable of storing and displaying visual information such as calculator and mobile is allowed during the course of the exam.

Roll No.

Student's Name

Section-A (1 Mark each)

1. Which of the following registers is used to keep track of address of the memory location where the next instruction is located?
(a) Memory Address Register (b) Memory Data Register
(c) Instruction Register (d) Program Counter
2. Microsoft Windows is a type of operating software
(a) Open Source Software (b) Freeware
(c) Shareware (d) Proprietary Software
3. Give the output of the following code.
>>> a,b = 4,2.5
>>> a-b//2**2
(a) 4.0 (b) 4
(c) 0 (d) None of these
4. Which of the following is not a valid rule of Boolean algebra?
(a) $A + A' = A$ (b) $A \cdot A = A$
(c) $A \cdot A' = 0$ (d) $A + A' = 1$
5. How can you print three copies of a workbook?
(a) Select File > Properties from the menu and type 3 in the Copies to print text box.
(b) Select File > Print from the menu and type 3 in the Number of copies text box.
(c) Click the Print button on the standard toolbar to print the document then take it to Kinko's and have 2 more copies made.
(d) Press Ctrl+P+3
6. Ayushi is trying to understand the features of Python functions. She is not understanding the feature that distributes the work in small parts. Select the appropriate term for her out of the following.
(a) Modularity (b) Reusability
(c) Simplicity (d) Abstraction
7. command is used to import selected objects from a module.
(a) <module> import <module>
(b) <module> import <object>
(c) import <module> import
(d) None of the above
8. Rakesh is learning the concept of file handling in Python. Where he knew that a type of file stores information in ASCII or UNICODE characters and each line is terminated by EOL. But he forgets the file type. Select the appropriate file type for the same.
(a) ASCII File (b) Data File
(c) Text File (d) Binary File

- 9.** Which of the following statement(s) about stack data structure is/are not correct?
- (a) Stack data structure can be implemented using linked list.
 - (b) New node can only be added at the top of the stack.
 - (c) Stack is the FIFO data structure.
 - (d) The last node at the bottom of the stack has a NULL link.
- 10.** Examples of VoIP app is
- (a) Skype
 - (b) Whats App
 - (c) Google Hangout
 - (d) All of these
- 11.** is a service that allows to put a website onto the Internet, and make it a part of the World Wide Web.
- (a) Web Hosting
 - (b) Web
 - (c) Hacking
 - (d) Phishing
- 12.** Which algorithm can be optimized to meet the timing deadlines and rate requirements of continuous media?
- (a) Earliest-Deadline-First scheduling
 - (b) SCAN-EDF scheduling
 - (c) Both (a) and (b)
 - (d) None of the mentioned
- 13.** The total number of rows in a table is called
- (a) domain
 - (b) tuple
 - (c) field
 - (d) cardinality
- 14.** Which of the following statement is correct to display all the cities with the condition, temperature, and humidity whose humidity is in the range of 60 to 75 from the 'whether' table?
- (a) `SELECT * FROM weather WHERE humidity IN (60 to 75);`
 - (b) `SELECT * FROM weather WHERE humidity BETWEEN 60 AND 75;`
 - (c) `SELECT * FROM weather WHERE humidity NOT IN (60 AND 75);`
 - (d) `SELECT * FROM weather WHERE humidity NOT BETWEEN 60 AND 75;`
- 15.** Which of the following are valid cursor methods used to execute SQL statments and retrieve query results? Select all that apply.
- (a) `Cursor.run()`
 - (b) `Cursor.fetchone()`
 - (c) `Cursor.execute()`
 - (d) `Cursor.fetchall()`
- 16.** Which of the following statement is correct about the firewall?
- (a) It is a device installed at the boundary of a company to prevent unauthorized physical access.
 - (b) It is a device installed at the boundary of an incorporate to protect it against the unauthorized access.
 - (c) It is a kind of wall built to prevent files form damaging the corporate.
 - (d) None of the above

- 17.** When was the first computer virus created?
 (a) 1970 (b) 1971
 (c) 1972 (d) 1969
- 18.** A large computer designed to handle complex scientific calculations
 (a) may use only a fixed word-length storage approach.
 (b) will likely require a character addressable storage unit.
 (c) must use fixed length words of four character each.
 (d) will not use numbered address locations.
- 19.** Which was written by Larry Mavoy was chosen by Torvalds to use for version control for the LINUX Kernal.
 (a) Configuration Directories (b) Source Safe
 (c) Bit keeper (d) Multiple Repositories
- 20.** Give the output of the following code.

```
>>>import math
>>> math.ceil(1.03)+math.floor(1.03)
```

 (a) 3 (b) -3.0
 (c) 3.0 (d) None of these
- 21.** By converting the Boolean expression $LM + M(NO + PQ)$ into SOP then we get
 (a) $LM + MNOPQ$ $LM + M + NO + MPQ$
 (b) $LM + MNO + MPQ$
 (c) $LM + MNOPQ$
 (d) $L + MNO + MPQ$
- 22.** How do you delete a column?
 (a) Select the column heading you want to delete and select the Delete Row button on the standard toolbar.
 (b) Select the column heading you want to delete and select Insert Delete from the menu.
 (c) Select the row heading you want to delete and select Edit>Delete from the menu.
 (d) Right click the column heading you want to delete and select delete from the shortcut menu.
- 23.** In Python function, the function calling another function is known as _____ and the function being called is known as _____.
 (a) main, keyword (b) caller, called
 (c) called, caller (d) executer, execute
- 24.** Which of the following statement is correct?
 (a) A Python standard library consists of a number of modules.
 (b) A Module consists of a number of Python standard libraries.
 (c) Library and modules are alias of each other.
 (d) None of the above

- 25.** To write data into CSV from Python console, which of the following function is correct?
- (a) csv.write(file)
 - (b) csv.writer(file)
 - (c) csv.Write(file)
 - (d) csv.writerow()
- 26.** The postfix form of the expression $(A + B) * (C * D - E) * F / G$ is
- (a) $AB + CDE * - * F * G /$
 - (b) $AB + CD * E - FG /**$
 - (c) $AB + CD * E - F ** G /$
 - (d) $AB + CD * E - * F * G /$
- 27.** Which of the following is an open source browser?
- (a) Internet Explorer
 - (b) Mozilla Firefox
 - (c) Microsoft Bing
 - (d) Google Chrome
- 28.** Which of the following is not correct about switch?
- (a) It is an intelligent hub.
 - (b) It sends the signal only to the intended node.
 - (c) It helps to connect multiple computers.
 - (d) It cannot forward multiple packets at the same time.
- 29.** Which of the following statement is true?
- (a) Helpers and plug-in are one and the same concepts.
 - (b) Browsers come with all of the necessary plugins for playing multimedia content.
 - (c) From time-to-time you may need to install a new plugin to play a multimedia object.
 - (d) It is not a good idea to virus check plugins since this can delay viewing a multimedia object.
- 30.** Which of the following is the drawback of DBMS?
- (a) Improvement in data
 - (b) Backup and recovery
 - (c) Complexity
 - (d) Maintenance of data integrity
- 31.** Which of the following statement is true?
- (a) TRUNCATE free the table space while DELETE does not.
 - (b) Both TRUNCATE and DELETE statements free the table's space.
 - (c) Both TRUNCATE and DELETE statement does not free the table's space.
 - (d) DELETE free the table space while TRUNCATE does not.
- 32.** Which of the following code snippets creates and connects to a new SQLite Database?
- (a)

```
import sqlite3
connection sqlite3.create("test_database.db")
```
 - (b)

```
import sql
connection sql.connect("test_database.db")
```
 - (c)

```
import sqlite3
connection sqlite3.connect("test_database.db")
```
 - (d)

```
from sqlite3 import Connection
connection = Connection("test_database.db")
```

- 33.** Which one of the following statement is correct about Email security in the network security methods?
- (a) One has to deploy hardware, software, and security procedures to lock those apps down.
 - (b) One should know about what the normal behavior of a network look likes so that he/she can spot any changes, breaches in the behavior of the network.
 - (c) Phishing is one of the most commonly used methods that are used by hackers to gain access to the network.
 - (d) All of the above
- 34.** Hackers usually used the computer virus for _____ purpose.
- (a) to log, monitor each and every user's stroke
 - (b) to gain access the sensitive information like user's Id and Passwords
 - (c) to corrupt the user's data stored in the computer system
 - (d) All of the above
- 35.** ENIAC (Electronic Numerical Integrator and Calculator) had huge advantage over Mark I because it used electronic valves in place of the electromagnetic switches. In the beginning, ENIAC was used for calculating the path of artillery shells. For which other was weapon design was it utilised?
- (a) Hydrogen bomb
 - (b) Atom bomb
 - (c) Agnimissile
 - (d) Fighter aircraft
- 36.** Which of the following is a disadvantage of proprietary software?
- (a) Can sometimes be too generic for specialist purposes
 - (b) It is usually free
 - (c) You need to be an expert to edit code
 - (d) Not as much support available or you may need to pay for it
- 37.** Find the output of the following Python program.
- ```
for i in range(1,15,4):
 print(i, end=',')
```
- (a) 1,20,3
  - (b) 2,3,4
  - (c) 1,5,10,14
  - (d) 1,5,9,13
- 38.** Let,  $x1 \oplus x2 \oplus x3 \oplus x4 = 0$  where  $x1, x2, x3, x4$  are Boolean variables, and  $\oplus$  is the XOR operator. Which of the following must always is true?
- (a)  $x1 . x2 . x3 . x4 = 0$
  - (b)  $x1 . x3 + x2 = 0$
  - (c)  $x1' \oplus x3' = x2' \oplus x4'$
  - (d)  $x1 + x2 + x3 + x4 = 0$
- 39.** To create a formula, you first
- (a) select the cell you want to place the formula into
  - (b) type the equals sign (=) to tell Excel that you're about to enter a formula
  - (c) enter the formula using any input values and the appropriate mathematical operators that make up your formula
  - (d) choose the new command from the file menu

40. The value is passed through a function call statement is called \_\_\_\_\_ and the values being received in the definition is known as \_\_\_\_\_ .
- (a) formal parameter, actual parameter  
 (b) actual parameter, formal parameter  
 (c) passed parameter, received parameter  
 (d) value parameter, constant parameter

## Section-B (2 Marks each)

41. Match the following lists.

| List I                      | List II              |
|-----------------------------|----------------------|
| A. Modern Computers         | 1. Cassette tape     |
| B. Quad-density diskette    | 2. Line printers     |
| C. Large computer system    | 3. LSI chips         |
| D. Sequential access method | 4. Double sided disk |

### Codes

|       |   |   |   |       |   |   |   |
|-------|---|---|---|-------|---|---|---|
| A     | B | C | D | A     | B | C | D |
| (a) 3 | 1 | 2 | 4 | (b) 2 | 3 | 1 | 4 |
| (c) 3 | 4 | 2 | 1 | (d) 2 | 1 | 4 | 3 |

42. Which of the following statement is correct?

- I. The Mozilla Application Suite with code name SeaMonkey is a free, cross-platform internet suite whose component is e-mail, web browser a news client, HTML editor and IRC clients.
- II. Apache HTTP Server is an open-source web service platform which will definitely guarantee the online availability of the various website in the large run.

- (a) Only I  
 (b) Only II  
 (c) Both I and II  
 (d) Neither I nor II

43. Match the following lists.

| List I                         | List II                      |
|--------------------------------|------------------------------|
| A. >>>tuple([10,20,30])        | 1. >>> (10,20,30)            |
| B. >>>("Tea",)* 3              | 2. >>> 2                     |
| C. >>>tuple("Item")            | 3. >>> ('Tea', 'Tea', 'Tea') |
| D. >>>print(len(tuple([1,2]))) | 4. >>> ('l', 't', 'e', 'm')  |

### Codes

|       |   |   |   |       |   |   |   |
|-------|---|---|---|-------|---|---|---|
| A     | B | C | D | A     | B | C | D |
| (a) 2 | 3 | 4 | 1 | (b) 1 | 3 | 4 | 2 |
| (c) 3 | 4 | 1 | 2 | (d) 4 | 1 | 2 | 3 |

44. Which of the following statement is correct ?

- I. A bookmark is an item or location in document that you identify a name for future Reference, and we can quickly jump to a specific location in the document.
- II. A Macros in Word and Excel are created using the Visual Basic programming language or by recording actions performed.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

45. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice.

**Assertion (A)** The postfix form of  $(A+B)*C$  is  $AB + C *$ .

**Reason (R)** Postfix notation refers to when operator is placed after its operands.

- (a) Both A and R are true and R is the correct explanation for A.
- (b) Both A and R are true and R is not correct explanation for A.
- (c) A is true but R is false.
- (d) A is false but R is true.

46. Observe the following lines written for the calling statement and select the appropriate answer.

ele\_bill(past\_reading=200,rate=6,current\_reading=345)

ele\_bill(current\_reading=345,rate=6,past\_reading=200)

ele\_bill(rate=6,past\_reading=200,current\_reading=345)

- (a) All lines have errors.
- (b) Only line 1 will execute and the rest will raise an error.
- (c) All lines are correct and no errors.
- (d) Only line 3 is correct.

47. Which of the following is true with regard to the ping command?

- I. The ping command checks the port level connectivity between source destinations end points.
- II. Ping summarizes the packet loss and round-trip delay between two IP end points.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

48. Let A, B, C, and D be boolean variables. Choose the correct options that is/are equivalent to the boolean expression given below.

$ABC + ((A'+C) (A'+B+D))'+BC (A'C+A+C') + ABC'$

- (a)  $((B'+C') (A'+C) (A'+B+D))'$
- (b)  $2 ((B+C') (A'+C') (A'+B'+D))'$
- (c)  $((B+C) (A+C') (A'+B+D))'$
- (d)  $((B'+C) (A'+C) (A'+B'+D))'$



49. Which of the following statement is true?

- I. It is customary to include an error message before all PARAM tags so viewers who don't have the appropriate plug-in to play the multi-media are informed what they are missing.
- II. It is customary to include an error message before the closing OBJECT tags so viewers who don't have the appropriate plug- in to play multi-media are informed what they are missing.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

50. In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice.

**Assertion (A)** A referential integrity is a system of rules of DBMS.

**Reason (R)** It ensures that user don't accidently delete or change related data.

- (a) Both A and R are true and R is the correct explanation for A.
- (b) Both A and R are true and R is not correct explanation for A.
- (c) A is true but R is false.
- (d) A is false but R is true.

## OMR SHEET

|    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |
|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|
| 1  | a | b | c | d | 2  | a | b | c | d | 3  | a | b | c | d | 4  | a | b | c | d |
| 5  | a | b | c | d | 6  | a | b | c | d | 7  | a | b | c | d | 8  | a | b | c | d |
| 9  | a | b | c | d | 10 | a | b | c | d | 11 | a | b | c | d | 12 | a | b | c | d |
| 13 | a | b | c | d | 14 | a | b | c | d | 15 | a | b | c | d | 16 | a | b | c | d |
| 17 | a | b | c | d | 18 | a | b | c | d | 19 | a | b | c | d | 20 | a | b | c | d |
| 21 | a | b | c | d | 22 | a | b | c | d | 23 | a | b | c | d | 24 | a | b | c | d |
| 25 | a | b | c | d | 26 | a | b | c | d | 27 | a | b | c | d | 28 | a | b | c | d |
| 29 | a | b | c | d | 30 | a | b | c | d | 31 | a | b | c | d | 32 | a | b | c | d |
| 33 | a | b | c | d | 34 | a | b | c | d | 35 | a | b | c | d | 36 | a | b | c | d |
| 37 | a | b | c | d | 38 | a | b | c | d | 39 | a | b | c | d | 40 | a | b | c | d |
| 41 | a | b | c | d | 42 | a | b | c | d | 43 | a | b | c | d | 44 | a | b | c | d |
| 45 | a | b | c | d | 46 | a | b | c | d | 47 | a | b | c | d | 48 | a | b | c | d |
| 49 | a | b | c | d | 50 | a | b | c | d |    |   |   |   |   |    |   |   |   |   |

# Answers

1. (d) Program Counter
2. (d) Proprietary Software
3. (a) 4.0
4. (a)  $A + A' = A$
5. (b) Select File > Print from the menu and type 3 in the Number of copies text box.
6. (a) Modularity
7. (b) `<module> import <object>`
8. (c) Text File
9. (c) Stack is the FIFO data structure
10. (d) All of these
11. (a) Web Hosting
12. (c) Both (a) and (b)
13. (d) cardinality
14. (b) `SELECT * FROM weather WHERE humidity BETWEEN 60 AND 75;`
15. (c) `Cursor.execute()`
16. (b) It is a device installed at the boundary of an incorporate to protect it against the unauthorized access.
17. (b) 1971
18. (a) may use only a fixed word-length storage approach.
19. (c) Bit keeper
20. (a) 3
21. (b) `LM + MNO + MPQ`
22. (d) Right click the column heading you want to delete and select delete from the shortcut menu.
23. (b) caller, called
24. (a) A Python standard library consists of a number of modules.
25. (b) `csv.writer(file)`
26. (b) `AB+ CD*E - FG /**`
27. (b) Mozilla Firefox
28. (d) It cannot forward multiple packets at the same time.
29. (c) From time-to-time you may need to install a new plugin to play a multimedia object.
30. (c) Complexity
31. (a) TRUNCATE free the table space while DELETE does not.
32. (c) `import sqlite3`  
`connection = sqlite3.connect("test_database.db")`

- 33.** (c) Phishing is one of the most commonly used methods that are used by hackers to gain access to the network.
- 34.** (d) All of the above
- 35.** (a) Hydrogen bomb
- 36.** (a) Can sometimes be too generic for specialist purposes.
- 37.** (d) 1,5,9,13
- 38.** (c)  $x_1' \oplus x_3' = x_2' \oplus x_4'$
- 39.** (b) type the equals sign (=) to tell Excel that you're about to enter a formula
- 40.** (b) actual parameter, formal parameter
- 41.** (c) 3 4 2 1
- 42.** (c) Both I and II
- 43.** (b) 1 3 4 2
- 44.** (c) Both I and II
- 45.** (a) Both A and R are true and R is the correct explanation for A.
- 46.** (c) All lines are correct and no errors.
- 47.** (b) Only II
- 48.** (a)  $((B'+C') (A'+C) (A'+B+D))'$
- 49.** (b) Only II
- 50.** (a) Both A and R are true and R is the correct explanation for A.