BLOOM | BSO Bloom School Olympiad

CLASS 11

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. A screen covered with a fine layer of phosphorescent element is

(a) CRT (b) LCD
(c) LED (d) TFT

2. Which of the following is not the mode of interacting with Python?

(a) Interactive mode (b) Script mode
(c) Hybrid mode (d) None of these

3. Which of the following is a type of Software programs?

(a) Application programs (b) Replicate programs
(c) Logical programs (d) Both (a) and (b)

4. Name of the function which is used to find length of string.

(a) length() (b) len()
(c) strlen() (d) slen()

5. Which technique was introduced because a single job could keep both the CPU and the I/O devices busy?

(a) Time sharing (b) Spooling
(c) Preemptive scheduling (d) Multiprogramming

6. Which of the following command will insert 7 in third position of List L?

(a) L.insert(3, 7) (b) L.insert(2, 7)
(c) L.add(3, 7) (d) L.append(3, 7)

7. _____is the decimal equivalent of the binary number 110101.1101.

(a) 53.8125 (b) 53.8145
(c) 50.8125 (d) 50.8145

8. Write the output of the following code.

```
a=("Amit", "Sumit","Ashish","Sumanta")
print(a.index("Sumit")+4//3**2)
```

(a) 2 (b) 4 (c) 1 (d) 3

9. According to Boolean law A''=

(a) 0 (b) A (c) A'' (d) 1

10. Anuj created two dictionaries "D1" and "D2" in Python. Later on he wants to add all the elements of D2 in D1. As a friend of Anuj, help him to write the code.

(a) D1.update(D2) (b) D2.update(D1)
(c) D1.append(D2) (d) D2.append(D1)

11. In MS Excel_____feature makes it easier to add repetitive data to a worksheet.

(a) AutoSum (b) Sort

(c) Filter (d) AutoComplete

12. Which of the following is not a function/method of the random module in Python?

(a) randfloat () (b) randint()

(c) random () (d) randrange ()

13. Which layer of the TCP / IP stack corresponds to the OSI model transport layer?

(a) Host to host (b) Application

(c) Internet (d) Network access

14. A service that allows a user to log in into another computer somewhere on the Internet.

(a) Telnet (b) FTP

(c) E-mail (d) Usenet

15. In_____printers characters are fully formed on the petals.

(a) Line printer (b) Drum printer

(c) Daisy wheel printer (d) Dot matrix printer

16. What will be the data type of the following variable?

A = '101'

(a) Integer (b) String

(c) Float (d) Character

17. What could be the maximum value of a single digit in an octal number system?

(a) 8 (b) 6

(c) 5 (d) 7

18. >>>chr(97) will return

(a) A (b) a (c) B (d) b

19. An optimal scheduling algorithm in terms of minimising the average waiting time of a given set of processes is

(a) FCFS scheduling algorithm (b) Round-robin scheduling algorithm

(c) Shortest job first scheduling algorithm (d) Priority scheduling algorithm

20. Write the output of the following code.

```
L1 = [1, 2, 3, 4, 5]
L2 = [9, 8, 7, 6, 5]
S= [L1+ 3 for L1 in L2]
print(S)
```

(a) [12, 11, 10, 9, 8] (b) [1, 2, 3, 4, 5, 6, 7, 8, 9]

(c) [4, 5, 6, 7, 8] (d) Error

21. $(0.875)_{10} = (?)_8$

(a) 0.8 (b) 0.7

(c) 0.6 (d) 0.5

22. Write the output of the following code.

```
a=("Amita", "How", "are", "you", "a")
 for i in range(len(a)):
   if(a[i]=="a"):
      print(a[i])
```

(a) Hello (b) How

(c) a (d) you

23. In Boolean algebra, $(A \cdot \overline{A}) + A = ?$

(a) A (b) 0 (c) $\overline{A}$ (d) 1

24. Dhirta wants to create a dictionary with "Jan", "Feb", "Mar" as key and 31, 28, 31 as values respectively. Help her to write the correct code.

(a) D={“Jan” : 31 , " Feb " : 28 , "Mar" : 31}

(b) D=["Jan" :31, "Feb":28, "Mar":31]

(c) D = {"Jan" ; 31, "Feb" ; 28, "Mar" ; 31}

(d) D=(“Jan”:31 , "Feb":28, "Mar":31)

25. Where can you find the horizontal split bar on MS Word screen?

(a) On the left of horizontal scroll bar

(b) On the right of horizontal scroll bar

(c) On the top of vertical scroll bar

(d) On the bottom of vertical scroll bar

26. Which Python library is a collection of modules?

(a) Python Standard Library (b) Matplotlib

(c) Pandas Library (d) NumPy Library

27. In specific, if the systems use separate protocols, which one of the following devices is used to link two systems?

(a) Repeater (b) Gateway

(c) Bridge (d) Hub

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

(a) Ping stands for Packet Internet Generator.

(b) The ping command checks the port level connectivity between source destinations end points.

(c) Ping summarizes the packet loss and round-trip delay between two IP end points.

(d) The ping command activates the RARP protocol of the IP layer.

29. The clarity of image depends on some factors which is not a correct factor?

(a) Resolution of screen
(b) Dot rate
(c) Refresh rate
(d) None of these

30. Smallest element of the Python coding is called

(a) Identifiers
(b) Token
(c) Keywords
(d) Delimiters

31. Specialized program that allows the user to utilize in specific application is classified as

(a) Logical programs
(b) Application programs
(c) Relative programs
(d) Replicate programs

32. Write the output of the following code.

```
a = “Welcome to \”my\”blog”
print(a)
```

(a) Welcome to “my” blog
(b) welcome to \ “my\” blog
(c) Error
(d) None of these

33. RMA works on static priorities while the EDF algorithm works on

(a) starvation
(b) dynamic priorities
(c) RR scheduling
(d) FIFO scheduling

34. System in which fractions are written by extending binary rotation is called

(a) Fixed - point representation
(b) Floating - point representation
(c) Binary digits representation
(d) Single rotation representation

35. Which of the following statement will generate the square of given list L?

```
L = [1, 2, 3, 4, 5]
```

(a) [x ** 2 for x in L]
(b) [x * 2 for x in L]
(c) [x ^ 3 for x in L]
(d) None of these

36. Write the output of the following code.

```
a="blog"
b=list(a)
c=tuple(b)
print(c)
```

(a) Error
(b) ['b', 'l', 'o', 'g']
(c) ('b', 'l', 'o', 'g')
(d) (blog)

37. Boolean algebra obeys

(a) Commutative law only
(b) Distributive law only
(c) Associative law only
(d) Associative, distributive and commutative law

38. Write the output of the following code.

```
D={1: ['Amit',23,21], 2: ['Suman',45,34], 3: 'Ravi', 4: 'Anuj'}
print("Amit" in D)
```

(a) True (b) False
(c) Error (d) None of these

39. The process of removing unwanted part of an image is called

(a) Hiding (b) Bordering (c) Cropping (d) Cutting

40. What is the correct syntax for shuffle()?

(a) random.shuffle.list (b) random.shuffle(list)
(c) random (shuffle.list) (d) random.list(shuffle)

Section-B (2 Marks each)

41. Match the following lists.

List I	List II
A. Flatware	1. Hardware
B. Microprocessor	2. Integrated Circuit
C. Tailor Made	3. Solid – State Drive
D. Tangible Component	4. L1 Cache Memory
E. Internal Component of CPU	5. Customized Application

Codes

	A	B	C	D	E
(a)	3	5	2	4	1
(b)	2	5	1	4	3
(c)	3	4	2	5	1
(d)	2	3	5	1	4

42. Which of the statement is correct with regard to Time Division Multiplexing (TDM) and its variants?

I. Statistical TDM makes efficient use of the bandwidth only if the arrival pattern of the data stream is probabilistic.
II. TDM requires the transmitter and receiver to be synchronized periodically.

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

43. Which of the following is/are true for the Boolean variables P, Q and R?

Let # be a binary operator defined as

X # Y = X' + Y' where X and Y are Boolean variables.

Consider the following two statements.

I. $(P \neq Q) \neq R = P \neq (Q \neq R)$

II. $Q \neq R = R \neq Q$

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

44. Which of the following statement(s) is/are correct ?

I. When there is no data in the adjacent cells, long text flows into adjacent cells on a worksheet.

II. We can select a single range of cells by dragging cursor over the desired cells.

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

45. $C3D7 + (746)_8 = (?)_{10}$

(a) 50620
(b) 50621
(c) 50135
(d) 50486

46. Which of the following statement(s) is/are correct ?

I. Internet access by transmitting digital data over the wires of a local telephone network is provided by digital signal line.

II. ARPANET was opened for many purposes such as educational fields, business, etc across different countries and then became known as the Internet.

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

47. Which of the following statement(s) is/are correct ?

I. Python support dynamic typing.

II. Python is based on ABC language.

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

48. Select the wrong option in reference to the statement given below.
(operand1)*(operand2) = No error

(a) Both operands can be of type integer.
(b) Operand1 can be of type integer and operand2 can be of type string.
(c) Operand1 can be of type string and operand2 can be of type integer.
(d) Both operands can be of type string.

49. Match the following lists.

List I	List II
A. Add the element	1. Slicing
B. Internal Component of CPU	2. append ()
C. Traversing a list	3. random ()
D. Shuffle the list	4. loop ()

Codes

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

50. Write the output of the following code.

```
a=("Amit", "Sumit","Ashish","Sumanta")
for i in a:
   print(len(i)**2)
```

(a) 0
1
4
9

(b) 16
25
36
49

(c) 1
4
9
16

(d) None of the above

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. (a) CRT
2. (c) Hybrid mode
3. (d) Both (a) and (b)
4. (b) len()
5. (d) Multiprogramming
6. (b) L.insert(2, 7)
7. (a) 53.8125
8. (c) 1
9. (b) A
10. (a) D1.update(D2)
11. (d) Auto Complete
12. (a) randfloat ()
13. (a) Host to host
14. (a) Telnet
15. (c) Daisy wheel printer
16. (b) String
17. (d) 7
18. (b) a
19. (c) Shortest job first scheduling algorithm
20. (a) [12, 11, 10, 9, 8]
21. (b) 0.7

22. (c) a

23. (a) A

24. (a) D={“Jan” : 31 , " Feb " : 28 , "Mar" : 31}

25. (c) On the top of vertical scroll bar

26. (a) Python Standard Library

27. (b) Gateway

28. (c) Ping Summarizes the packet loss and round-trip delay between two IP end points.

29. (b) Dot rate

30. (b) Token

31. (b) Application programs

32. (a) Welcome to “my” blog

33. (c) RR scheduling

34. (a) Fixed-point representation

35. (a) [x**2 for x in L]

36. (c) (‘b’, ‘l’, ‘o’, ‘g’)

37. (d) Associative, distributive and commutative law

38. (b) False

39. (c) Cropping

40. (b) random.shuffle(list)

41. (d) 2 3 5 1 4

42. (c) Both I and II

43. (b) Only II

44. (c) Both I and II

45. (b) 50621

46. (b) Only II

47. (c) Both I and II

48. (d) Both operands can be of type string.

49. (d) 2 1 4 3

50. (b) 16
25
36
49