



GSFC UNIVERSITY  
SCHOOL OF SCIENCE

Admission Common Test for M.Sc. Data Science, 2023-24

Time: 60 Minutes

Total Marks: 60

Instructions:

- i. All questions are compulsory.
  - ii. All questions are Multiple Choice Questions.
  - iii. Each question Carries 1 Mark.
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- 1 Average age of a group of 30 boys is 16 years. A boy of age 19 leaves the group and a new boy joins the group. If the new average age of the group is 15.8 years, find the age of the new boy.
  - a. 12 years
  - b. 13 years
  - c. 14 years
  - d. 15 years
- 2 Which of the following numbers is divisible by 9?
  - a. 67578
  - b. 56785
  - c. 45678
  - d. 65889
- 3 What is the unit digit in the product of  $853 * 1346 * 452 * 226$ ?
  - a. 4
  - b. 5
  - c. 6
  - d. 8
- 4 The sum of the ages of father and his son is 44 years. If 6 years after the father will be 3 times as old as his son, what are their present ages?
  - a. 36, 8
  - b. 38, 6
  - c. 35, 9



- d. 37, 7
- 5 Two ships are sailing in the sea on the two sides of a lighthouse. The angles of elevation of the top of the lighthouse observed from the ships are  $30^\circ$  and  $45^\circ$  respectively. If the lighthouse is 100m high, find the distance between the two ships.
- 155.80 m
  - 157.80 m
  - 159.80 m
  - 161.80 m
- 6 A man sees the top of a tower from a point P. It makes an angle of elevation of  $30^\circ$  with the man's eyes. If the height of the tower is 100 m, find the distance between man and tower?
- 57.8 m
  - 110 m
  - 173 m
  - 140 m
- 7 The perimeter of triangle ABC is 6 times the arithmetic mean of sines of its angles, if  $a = 1$  then  $A =$  \_\_\_\_\_
- $\pi/6$
  - $\pi/3$
  - $\pi/2$
  - $\pi/5$
- 8 The maximum value of  $\sin \theta$  is
- 1
  - 0.8
  - 0
  - 0.6
9. What is the median of the sample 5, 5, 11, 9, 8, 5, 8?
- 5
  - 6
  - 8
  - 9
- 10 Differential Equation used widely in the fields of Economics, Ecology and Physics
- True
  - False
- 11 Write down the number which will complete the sequence and replace the ?
- 6, 26, 126, ?
- 278
  - 526
  - 626



- d. 726
- 12 Rajesh walks 7 km to the north then turns left and walks 3 km. Then takes another left and continue walking this time another 7 km forward. How much distance in km is he away from the starting point
- 10km
  - 6km
  - 3km
  - 2km
- 13 Balwant had 17 sheep. A storm in the village killed all but 7 sheep .How many was he left with?
- 10
  - 6
  - 7
  - 9
- 14 What is the smallest number of ducks that can swim in this formation- two ducks in front of a duck two ducks behind a duck and a duck between two ducks?
- 3
  - 5
  - 7
  - 9
- 15 What is the product of all the numbers in the dial of a telephone?
- 1,58,480
  - 1,59,450
  - 1,59,480
  - None of those
- 16 A group of 1200 persons consisting of captains and soldiers is travelling in a train. For every 15 soldiers there is one captain. The number of captains in the group is
- 85
  - 80
  - 75
  - 70
- 17 Aruna cut a cake into two halves and cuts one half into smaller pieces of equal size. Each of the small pieces is twenty grams in weight. If she has seven pieces of the cake in all with her, how heavy was the original cake?
- 120 grams
  - 140 grams
  - 240 grams
  - 280 grams
- 18 First bunch of bananas has  $\frac{1}{4}$  again as many bananas as a second bunch. If the second bunch has 3 bananas less than the first bunch, then the number of bananas in the first bunch is
- 9
  - 10
  - 12



- d. 15
- 19 At the end of a business conference the ten people present all shake hands with each other once. How many handshakes will there be altogether?
- 20
  - 45
  - 55
  - 90
- 20 A student got twice as many sums wrong as he got right. If he attempted 48 sums in all, how many did he solve correctly
- 12
  - 16
  - 18
  - 24
- 21 Which is the most popular medium for direct access secondary storage of a computer?
- RAM
  - ROM
  - Magnetic tape
  - Magnetic disk
- 22 Which major development led to the production of microcomputers?
- integrated circuits
  - logic gates
  - floppy disks
  - magnetic disks
- 23 The first computer mouse is built by
- Robert Zawacki
  - Daniel Cougher
  - William English
  - Doughlas Engelbat
- 24 An input device used with interactive graphics to locate a place on the screen is
- Conservative
- mouse
  - modem
  - tablet
  - touch screen
- 25 Disk units that use unremovable platters are called
- high density disks
  - sealed disks
  - unremovable disks
  - hard disks



- 26 A device that prints one character at a time is known as
- character printer
  - dot matrix printer
  - laser printer
  - line printer
- 27 A device designed to read information encoded into a small plastic card is
- badge reader
  - magnetic tape
  - light pen
  - punched card
- 28 The two kinds of main memory are
- direct and sequential
  - floppy disk and hard disk
  - primary and secondary
  - Rom and RAM
- 29 Which of the following produces the best quality graphics representation?
- Plotter
  - laser printer
  - ink jet printer
  - dot matrix printer
- 30 A mass storage system is a direct access device capable of storing within its array of cartridges
- 472 billion characters
  - almost 16 billion characters
  - over 500 megabytes of data
  - 2000 megabytes of data

Questions 31 to 40 are from Python language

- 31 What is the output of this expression,  $3*1**3$ ?
- 27
  - 9
  - 3
  - 1
- 32 What will be the output of the following Python code?

```
x =['ab','cd']  
foriin x:
```



i.upper()

print(x)

- a. ['ab','cd']
- b. ['AB','CD']
- c. [None,None]
- d. none of the mentioned

33 Is Python case sensitive when dealing with identifiers?

- a. yes
- b. no
- c. machine dependent
- d. none of the mentioned

34 What is the maximum possible length of an identifier?

- a. 31 characters
- b. 63 characters
- c. 79 characters
- d. none of the mentioned

35 Which is the correct operator for power( $x^y$ )?

- a.  $x^y$
- b.  $x+^y$
- c.  $x^^y$
- d.  $x**y$

36 What is the answer to this expression,  $22 \% 3$  is?

- a. 1
- b. 7
- c. 0
- d. 5

37 What will be the output of "Hello".replace('l','e')

- a. Heeeo
- b. Heelo
- c. Heleo
- d. None

38 What is the output of `math.ceil(4.4)`?

- a. 4
- b. 5
- c. 4.0



- d. 5.0
- 39 Python is a \_\_\_\_\_ language
- Procedural oriented
  - Object Oriented
  - Object Based
  - All the Above
- 40 What arithmetic operators cannot be used with strings in python language?
- +
  - \*
  - 
  - All of the mentioned
- 41 What is the average of first five multiples of 12?
- 36
  - 38
  - 40
  - 42
- 42 What is the compound interest on Rs. 2500 for 2 years at rate of interest 4% per annum?
- Rs. 180
  - Rs. 204
  - Rs. 210
  - Rs. 220
- 43 Which of the following is not a basic data type in C language?
- Float
  - Int
  - Real
  - char
- 44 40 % of 280 =?
- 112
  - 116
  - 115



- d. 120
- 45 30, 23, 17, 12, \_\_\_\_\_, 5
- a. 6
  - b. 7
  - c. 8
  - d. 9
- 46 The runs scored by a batsman in 5 ODIs are 31, 97, 112, 63, and 12. The standard deviation is
- a. 24.79
  - b. 23.79
  - c. 25.79
  - d. 26.79
- 47 Find the mode of the call received on 7 consecutive day 11, 13, 13, 17, 19, 23, 25
- a. 11
  - b. 13
  - c. 17
  - d. 23
- 48 Find the mode and median of the 9 consecutive number 12, 7, 8, 14, 21, 23, 27, 7, 11
- a. 12, 9
  - b. 7, 9
  - c. 7, 12
  - d. 11, 9
- 49 If the probability of hitting an object is 0.8, find the variance
- a. 0.18
  - b. 0.16
  - c. 0.14
  - d. 0.12





- 50 If the probability that an object dropped from a certain height will strike the ground is 80 percent and if 12 objects are dropped from the same place, find the mean and variance. (consider binomial distribution)
- 9.6,1.92
  - 8.6,1.92
  - 9.6,1.82
  - 8.6,1.82
- 51 Variance of a constant 'x' is
- 0
  - $x/2$
  - $x$
  - 1
- 52  $E(X) = \lambda$  is used for which distribution?
- Binomial distribution
  - Poisson's distribution
  - Bernoulli's distribution
  - Laplace distribution
- 53 If  $P(x) = 0.8$  and  $x = 3$ , then find the value of  $E(x)$
- 2.6
  - 2.8
  - 2.2
  - 2.4
- 54 If  $P(1) = P(2)$  in Poisson's distribution, find the value of mean
- $\sqrt{2}$
  - $\sqrt{3}$
  - $\sqrt{5}$
  - $\sqrt{7}$
- 55 If  $P(1) = \lambda P(5)$  in Poisson's distribution, find the value of mean
- 33.81
  - 53.81
  - 63.81



- d. 43.81
- 56 A month after colleges opened.....
- A. 35% seats reserved under OBC  
B. in private colleges  
C. for the next academic year  
D. remain vacant
- a. CBDA  
b. CADB  
c. ADBC  
d. BADC
- 57 The water tanks may remain empty
- A. on Tuesday evening  
B. in the city  
C. will repair the damaged water pipes  
D. as the water supply department
- a. BADC  
b. BACD  
c. DBAC  
d. ADCB
- 58 She lived \_\_\_\_ the expectations.
- a. as per  
b. up to  
c. on  
d. at
- 59 Tony, where are you? \_\_\_\_ up this tree.
- a. Here I am  
b. Here am I  
c. There I am  
d. There am I
- 60 a good looking girl does not necessarily have a good character,  
\_\_\_\_\_
- a. don't go by the appearance  
b. beauty is only skin deep



- c. never judge by the appearance
- d. all that glitters are not gold

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**Answer Key**

|    |   |    |   |    |   |    |   |    |   |
|----|---|----|---|----|---|----|---|----|---|
| 1  | B | 2  | d | 3  | c | 4  | a | 5  | b |
| 6  | C | 7  | a | 8  | a | 9  | c | 10 | a |
| 11 | A | 12 | c | 13 | c | 14 | a | 15 | d |
| 16 | C | 17 | c | 18 | d | 19 | b | 20 | b |
| 21 | D | 22 | a | 23 | d | 24 | c | 25 | d |
| 26 | A | 27 | a | 28 | d | 29 | a | 30 | a |
| 31 | C | 32 | a | 33 | a | 34 | d | 35 | d |
| 36 | A | 37 | a | 38 | b | 39 | b | 40 | b |
| 41 | A | 42 | b | 43 | c | 44 | a | 45 | c |
| 46 | C | 47 | b | 48 | c | 49 | b | 50 | a |
| 51 | A | 52 | b | 53 | d | 54 | a | 55 | d |
| 56 | B | 57 | a | 58 | b | 59 | a | 60 | b |