



## **BSc. (IT) Entrance Test (Sample)**

**Name:**

**Roll Number:**

**Total Time :- 2 Hours**

**Questions: 100 MCQs**

**Total Marks :- 200**

### **SECTION-A**

### **MATHEMATICS QUESTIONS**

1. Tickets numbered 1 to 50 are mixed and one ticket is drawn at random. Find the probability that the ticket drawn has a number which is a multiple of 4 or 7?  
a.  $\frac{9}{25}$                       b.  $\frac{9}{50}$                       c.  $\frac{18}{25}$                       d. None of these
2. Two dice are tossed simultaneously. Find the probability that the total is a prime number.  
a.  $\frac{7}{9}$                       b.  $\frac{5}{12}$                       c.  $\frac{1}{6}$                       d.  $\frac{5}{9}$
3. A class consists of 15 girls and 10 boys. Three students are to be randomly selected. Find the probability that one boy and two girls are picked.  
a.  $\frac{1}{50}$                       b.  $\frac{3}{25}$                       c.  $\frac{21}{46}$                       d.  $\frac{25}{122}$
4. A dice is rolled twice. What is the probability of getting sum 9?  
a.  $\frac{2}{3}$                       b.  $\frac{1}{3}$                       c.  $\frac{1}{9}$                       d.  $\frac{3}{9}$
5. A box has 10 black and 10 white balls. What is the probability of getting two balls of the same color?  
a.  $\frac{10}{19}$                       b.  $\frac{9}{38}$                       c.  $\frac{9}{19}$                       d.  $\frac{5}{38}$
6. Three coins are tossed. What is the probability of getting at most two tails?  
a.  $\frac{7}{8}$                       b.  $\frac{1}{8}$                       c.  $\frac{2}{8}$                       d.  $\frac{4}{8}$
7. What will be total cost of polishing curved surface of a wooden cylinder at rate of \$ 20 per sq.m, if it has 40 cm diameter and 7m height?  
a. \$ 480                      b. \$ 384                      c. \$ 352                      d. \$ 176
8. In a class, there are 200 students, at least 140 of students like Maths, at least 150 like Science and at least 160 like English. What is the minimum number of students who like all three subjects?  
a. 50                      b. 83                      c. 100                      d. 150

#### ***Directions for questions 9-11:***

In a music school, three instruments are taught: Tabla, Violin and Guitar. Out of 278 students in the school, 20 learn Tabla and Violin, 23 learn Violin and Guitar and 21 learn Tabla and Guitar. 9 students learn all three instruments.

It is known that equal number of seats in all three instruments classes. (If a student is learning Guitar as well Tabla, then he occupies two seats: one in Tabla Class and one in Guitar Class)

9. Determine the number of students who have occupied only one seat.  
a. 232                      b. 200                      c. 197                      d. 234

- a. 2:1                      b. 1:2                      c. 5:6                      d. 6:5



33. Ramesh gets double the amount in 9 years when invested at compound interest. In how many years will the amount become four times itself?  
 a. 13.5 years                      b. 27 years                      c. 9 years                      d. 18 years
34. When difference between compound and simple interest for three years is \$ 122 at 5% rate per annum, the principal is \_\_\_\_\_  
 a. \$ 24400                      b. \$ 14400                      c. \$ 18000                      d. \$ 16000
35. If at same rate of interest, in 2 years, the simple interest is \$ 40 and compound interest is \$ 41, then what is the principal?  
 a. \$ 500                      b. \$ 400                      c. \$ 800                      d. \$ 820
36. Price of each article of type P, Q, and R is \$ 300, \$ 180 and \$ 120 respectively. Suresh buys articles of each type in the ratio 3:2:3 in \$ 6480. How many articles of type Q did he purchase?  
 a. 8                      b. 14                      c. 20                      d. None of the above
37. The ratio of market prices of wheat and paddy is 2:3 and the ratio of quantities consumed in a family is 5:4. Find the ratio of expenditure of wheat and paddy.  
 a. 6:5                      b. 5:6                      c. 1:1                      d. 8:15
38. The ratio of numbers of girls and boys participating in sports of a school is 4:5. If the number of girls is 212, determine the number of boys participating in the sports.  
 a. 256                      b. 265                      c. 251                      d. 263
39. The three numbers are in the ratio  $1/2 : 2/3 : 3/4$ . The difference between greatest and smallest numbers is 36. Find the numbers.  
 a. 72, 84, 108                      b. 60, 72, 96                      c. 72, 84, 96                      d. 72, 96, 108
40. If  $A:B = 2:3$ ,  $B:C = 4:5$  and  $C:D = 6:7$ , then  $A:B:C:D$  is  
 a. 18:24:30:35                      b. 16:24:30:35                      c. 16:22:30:35                      d. 16:24:15:35

***Differentiate the question 41-47***

41.  $4x^3 - x^5$   
 a.  $12x^2 - 5x^4$                       b.  $12x - 5x^4$                       c.  $x^2 - 5x^4$                       d.  $12x^2 - 5x^3$
42.  $\sin x (\cos x)$   
 a.  $\sin x \cdot \cos x$                       b.  $-\cos(\cos x) \cdot \sin x$                       c.  $\cos(\sin x) \cdot \sin x$                       d.  $-\cos x \cdot \sin x$
43.  $\cos(\log x)$   
 a.  $\log x \cdot \sin x$                       b.  $\sin x \cdot \log x$                       c.  $-\sin(\log x) \cdot x^{-1}$                       d.  $-\cos x \cdot \sin x \cdot x^{-1}$
44.  $\log(\cos x)$   
 a.  $\tan x$                       b.  $\cot x$                       c.  $\sin x \cdot \cos x$                       d.  $-\tan x$
45.  $e^x \sin x$   
 a.  $e^x \sin x$                       b.  $e^x \sin x + e^x \cos x$                       c.  $-e^x \sin x + e^x \cos x$                       d.  $e^x \sin x \cos x$
46.  $\cos x^3$   
 a.  $-3x^2 \cos x^3$                       b.  $3x^2 \sin x^3$                       c.  $x^2 \cos x^3$                       d.  $-3x^2 \sin x$



59. Pipe R can empty a full tank in 30 hours. But two pipes P and Q can fill a tank in 15 hours and 10 hours respectively. Ram unknowingly opened all three taps. After 2 hours Shyam realized it and closed Pipe R. Due to this mistake how much time more would it take to fill the tank?  
a. 18 minutes                      b. 24 minutes                      c. 1 hour 20 minutes                      d. 2 hours 15 minutes

60. There is a leak at the bottom of a cistern. Due to this it takes 8 hours to fill the cistern. Had there not been a leak, it would take one hour less to fill the cistern. How much time does it take for the leak to completely empty the cistern?  
a. 48 hours                      b.  $55\frac{1}{3}$  hours                      c. 56 hours                      d. 15 hours

## **SECTION-B**

### **Aptitude Questions**

61. In the question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and based on the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Give answer

- (A) If only I follows
- (B) If only II follows
- (C) If either I or II follows
- (D) If neither I nor II follow
- (E) If both I and II follow.

Statement - Recent protests by the mill-workers has led to a lock down. The business cannot remain profitable without cooperation between the owners and mill-workers.

Courses of Action - I. The mill should be closed.

II. The workers should cooperate with the owners.

III. The owners should talk with the workers about the problems and try to reach a mutually agreeable solution.

- a. None follow
- b. All follow
- c. Only II and III follow
- d. Neither I nor II follows
- e. Only I and II follow

62. In the question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and based on the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Give answer

- (A) If only I follows
- (B) If only II follows
- (C) If either I or II follows
- (D) If neither I nor II follow
- (E) If both I and II follow.

Statement - Increase in the pollution levels in the city by way of automobile exhaustions poses a severe threat to the inhabitants.



- Courses of Action - I. All the automobile factories in the city should immediately be closed.  
II. Government should run programs to promote the use of public transport and car-pooling by commuters.  
III. The Government should allow only licensed factories and vehicles.
- a. Only I follows
  - b. Only II follows
  - c. Only III follows
  - d. Both II and III follow

63. In the question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and based on the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Give answer

- (A) If only I follows
- (B) If only II follows
- (C) If either I or II follows
- (D) If neither I nor II follow
- (E) If both I and II follow.

Statement - During the recent Diwali season, there was a rise in criminal activities.

Courses of Action - I. The police should immediately investigate into this.

II. The police should take adequate precautions to avoid thefts during Diwali season.

III. The known criminals should be arrested before any such season.

- a. Only I follows
- b. Only II follows
- c. Both I and II follow
- d. Neither I nor II follows

64. In each of the following questions, choose the correct code form.

In a certain code, MEN is written as ABC and DARK is written as LSTZ. How can READ be written in this code?

- a. TCSL
- b. TBSL
- c. TASL
- d. TLSL

65. In a certain code language, 'it be pee' means 'dogs are blue', 'sik hee' means 'large horses' and 'pee mit hee' means 'horses are pigs'.

How is 'pig' written in this code?

- a. Hee
- b. Pee
- c. Sik
- d. Mit

66. In a certain code language, 'it be pee' means 'dogs are blue', 'sik hee' means 'large horses' and 'pee mit hee' means 'horses are pigs'.

How is 'pigs are large horses' written in this code?

- a. Mit pee sik hee
- b. Sik it pee be
- c. Cannot be determined
- d. None of these

67. In a certain code language, 'it be pee' means 'dogs are blue', 'sik hee' means 'large horses' and 'pee mit hee' means 'horses are pigs'.

How is 'dogs' written in that code?

- a. It                                      b. Be                                      c. Pee                                      d. Cannot be determined

68. In a certain code language, 'it be pee' means 'dogs are blue', 'sik hee' means 'large horses' and 'pee mit hee' means 'horses are pigs'.

How is 'large' written in that code?

- a. Hee                                      b. Sik                                      c. Pee                                      d. None of these

69. In the following question, choose the correct code form.

In a code language, 'mok dan sil' means 'big bad wrestler', 'fit kon dan' means 'wrestler is good', 'cold tir fit' means 'he is new'.

Which word stands for 'is' in that language?

- a. Fit                                      b. Kon                                      c. Dan                                      d. Mok

70. Choose the odd pair of words

- a. Aphid – Paper  
b. Termite - Wood  
c. Moth - Wool  
d. Locust – Plant

71. Choose the odd pair.

- a. Bottle – Wine  
b. Ball – Bat  
c. Cup – Tea  
d. Pitcher – Water

72. Choose the odd pair of words.

- a. China – Beijing  
b. Russia – Moscow  
c. Spain – Madrid  
d. Japan – Ottawa

73. Choose the odd pair.

- a. Wide - Broad  
b. Large – Big  
c. Heavy - Light  
d. Small - Tiny

74. Choose the odd pair of words

- a. Bass - Shoal  
b. Albatross – Rookery  
c. Coyotes – Band  
d. Man – Woman

75. Read the following information to answer the given question.

1. Rage, Raider, Rattler, Razor, Reaper, Rictor and Rogue are sitting in a circle facing at the centre.
2. Reaper is the neighbour Rage and Razor.
3. Rogue is not between Rictor and Rattler.



4. Rictor is to the immediate right of Rage.

Which of the following persons are sitting adjacent to each other from left to right in the order shown?

- a. Raider, Rogue, Rattler
- b. Rictor, Raider, Rattler
- c. Rattler, Razor, Rogue
- d. Reaper, Razor, Rogue

76. Read the following information to answer the given question.

1. Rage, Raider, Rattler, Razor, Reaper, Rictor and Rogue are sitting in a circle facing at the centre.

2. Reaper is the neighbour Rage and Razor.

3. Rogue is not between Rictor and Rattler.

4. Rictor is to the immediate right of Rage.

Who are the neighbors of Raider?

- a. Rictor and Rattler
- b. Rage and Rictor
- c. Rattler and Razor
- d. Data inadequate

77. Read the following information to answer the given question.

1. Rage, Raider, Rattler, Razor, Reaper, Rictor and Rogue are sitting in a circle facing at the centre.

2. Reaper is the neighbour Rage and Razor.

3. Rogue is not between Rictor and Rattler.

4. Rictor is to the immediate right of Rage.

What is the position of Rattler?

- a. Third to the left of Reaper
- b. To the immediate left of Rage
- c. Second to the right of Rictor
- d. Immediate left of Raider

78. Read the following information to answer the given question.

1. Rage, Raider, Rattler, Razor, Reaper, Rictor and Rogue are sitting in a circle facing at the centre.

2. Reaper is the neighbour Rage and Razor.

3. Rogue is not between Rictor and Rattler.

4. Rictor is to the immediate right of Rage.

Which of the following pairs has the second person sitting immediately to two places the right of the first?

- a. Rage Raider
- b. Rattler Raider
- c. Reaper Rage
- d. Razor Rogue

79. Read the following information to answer the given question.

1. Rage, Raider, Rattler, Razor, Reaper, Rictor and Rogue are sitting in a circle facing at the centre.

2. Reaper is the neighbour Rage and Razor.

3. Rogue is not between Rictor and Rattler.

4. Rictor is to the immediate right of Rage.

Which of the following pairs are not adjacent to each other?

- a. Raider Rage
- b. Rattler Raider
- c. Razor Reaper
- d. Rogue Razor

80. In the following question, various terms of an alphabet series are given with one or more missing terms as shown by (?). Choose the missing term out of the given alternatives.

IJK, NOP, STU, ?

- a. ZYX
- b. XYZ
- c. WXY
- d. YZA

81. In the following question, various terms of an alphabet series are given with one or more missing terms as shown by (?). Choose the missing term out of the given alternatives.

DEMONETIZATION, EMONETIZATIO, MONETIZATI, ONETIZAT, ?

- a. NETIZ
- b. NETIZAT
- c. ETIZAT
- d. NETIZA

82. In the following question, various terms of an alphabet series are given with one or more missing terms as shown by (?). Choose the missing term out of the given alternatives.

A, C, E, G, I, ?

- a. K
- b. L
- c. M
- d. N

83. In the following question, various terms of an alphabet series are given with one or more missing terms as shown by (?). Choose the missing term out of the given alternatives.

H, I, K, N, R, ?

- a. Z
- b. X
- c. T
- d. W

84. In the following question, various terms of an alphabet series are given with one or more missing terms as shown by (?). Choose the missing term out of the given alternatives.

R, U, X, ?, D

- a. Z
- b. B
- c. A
- d. Y

85. Read the following information to answer the given question.

Some boys are sitting in three rows all facing North such that B is in the middle row. C is just to the right of B but in the same row.

D is just behind of C while A is in the North of B.

In which direction of A is D?

- a. South-East
- b. South-West
- c. North-West
- d. North-East

86. Read the following information to answer the given question.

Goku started from his house towards North direction.

After covering 80 km, he turned towards left and covered a distance of 60 km.

What is the shortest distance now from his house?

- a. 100 km
- b. 110 km
- c. 130 km
- d. 140 km

87. Read the following information carefully and answer the question below.



A man walks 10 km toward south and then turns to the right.

After walking 5 km he turns to the left and walks 10 km.

In which direction is he from the starting position?

- a. South-East      b. South-West      c. North-West      d. North-East

88. One morning, Manish and Ali were talking to each other face to face at a crossing. If Ali's shadow was exactly to the left of Manish, which direction was Manish facing?

- a. East      b. West      c. South      d. North

89. Ravindra Jadeja left home and ran 20 km towards South, then turned right and ran 10 km.

He took rest for ten minutes at the same spot and then again turned right and ran 20 km.

After this he turned left and ran 20 km to the cricket ground.

How many kilometers will he have to run back to reach his home?

- a. 15 km      b. 20 km      c. 25 km      d. 30 km

90. Read the following information carefully and answer the question below.

1.  $J + K$  means J is the son of K
2.  $J - K$  means J is the wife of K
3.  $J \times K$  means J is the brother of K
4.  $J \div K$  means J is the mother of K
5.  $J = K$  means J is the sister of K

What does  $A \times B \div C$  mean?

- a. A is the brother of C  
b. A is the father of C  
c. A is the uncle of C  
d. A is the nephew of C

91. Read the following information carefully and answer the questions below.

1.  $J + K$  means J is the son of K
2.  $J - K$  means J is the wife of K
3.  $J \times K$  means J is the brother of K
4.  $J \div K$  means J is the mother of K
5.  $J = K$  means J is the sister of K

What does  $A + B - C$  mean?

- a. C is the father of A  
b. C is the uncle of A  
c. C is the son of A  
d. C is the brother of A

92. Read the following information carefully and answer the questions below.

1.  $P \times Q$  means P is the father of Q
2.  $P - Q$  means P is the sister of Q
3.  $P + Q$  means P is the mother of Q
4.  $P \div Q$  means P is the brother of Q

Which of the following represents 'R is niece of M'?

- a.  $M - J + R - N$   
b.  $R - M \times T - W$   
c.  $M - K \times T - R$

d. None of these

93. Read the following information carefully and answer the questions below.

1.  $P \times Q$  means P is the father of Q
2.  $P - Q$  means P is the sister of Q
3.  $P + Q$  means P is the mother of Q
4.  $P \div Q$  means P is the brother of Q

Which of the following represents 'J is the son of F'?

- a.  $J \div R - T \times F$
- b.  $J + R - T \times F$
- c.  $J \div M - N \times F$
- d. None of these

94. Read the following information carefully and answer the questions below.

1.  $P \times Q$  means P is the father of Q
2.  $P - Q$  means P is the sister of Q
3.  $P + Q$  means P is the mother of Q
4.  $P \div Q$  means P is the brother of Q

In the expression,  $B + D \times M \div N$ , how is M related to B?

- a. Son
- b. Grandson
- c. Granddaughter
- d. Daughter

95. Read the following information carefully and answer the question below.

1.  $M \$ N$  means M is the mother of N
2.  $M \# N$  means M is the father of N
3.  $M @ N$  means M is the husband of N
4.  $M \% N$  means M is the daughter of N

If  $F @ D \% K \# H$ , then how is F related to H?

- a. Brother-in-law
- b. Sister
- c. Sister-in-law
- d. None of these

96. How much does a watch gain or lose per day, if its hands coincide every 64 minutes?

- a. Gain 92 min
- b. Lose 9 min
- c. Lose 34 (5/11) min
- d. Lose 32 (8/11) min

97. At what time between 7.02 and 8.02 will the hands of a watch be in the straight line but not together?

- a. 5 (3/11) min past 7
- b. 5 (5/11) min past 7
- c. 5 (3/11) min past 7
- d. 43 min past 7

98. At what time between 3 & 4 will the hands of a watch point in opposite directions?
- a. 43 min past 3
  - b. 42 (5/11) min past 3
  - c. 49 (1/11) min past 3
  - d. 50 min past 3
99. How many times do the hands of a clock coincide in a day?
- a. 11
  - b. 22
  - c. 12
  - d. 24
100. When the time in the clock is 7.20 pm, then the angle between the hands of the clock is
- a. 80
  - b. 90
  - c. 100
  - d. 110

### **Answer Key**

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

- 27 c
- 28 b
- 29 a
- 30 d
- 31 d
- 32 c
- 33 d
- 34 d
- 35 b
- 36 a
- 37 b
- 38 b
- 39 a
- 40 b
- 41 a
- 42 b
- 43 c
- 44 d
- 45 b
- 46 c
- 47 c
- 48 a
- 49 c
- 50 b
- 51 d
- 52 a
- 53 b
- 54 a
- 55 b
- 56 b
- 57 b
- 58 d
- 59 b
- 60 c
- 61 c
- 62 d
- 63 c
- 64 b
- 65 d
- 66 a
- 67 d
- 68 b
- 69 a
- 70 a
- 71 b
- 72 d
- 73 c

- 74 d
- 75 b
- 76 a
- 77 c
- 78 a
- 79 c
- 80 b
- 81 d
- 82 a
- 83 d
- 84 c
- 85 a
- 86 a
- 87 b
- 88 d
- 89 d
- 90 c
- 91 a
- 92 a
- 93 d
- 94 b
- 95 a
- 96 d
- 97 b
- 98 c
- 99 b
- 100 c