B.Sc. (IT) Entrance Test (Sample)

Name: **Roll Number:**

Total Time :- 1 Hour   **Questions:** 50 MCQs   **Total Marks :-** 100

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. 9/25   b. 9/50   c. 18/25   d. None of these

2. Two dice are tossed simultaneously. Find the probability that the total is a prime number.
a. 7/9   b. 5/12   c. 1/6   d. 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. 1/50   b. 3/25   c. 21/46   d. 25/122

4. A dice is rolled twice. What is the probability of getting sum 9?
a. 2/3   b. 1/3   c. 1/9   d. 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. 10/19   b. 9/38   c. 9/19   d. 5/38

6. Three coins are tossed. What is the probability of getting at most two tails?
a. 7/8   b. 1/8   c. 2/8   d. 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

10. Determine the number of students who have occupied seats in Violin or Guitar class but not in Tabla Class.
a. 160   b. 153   c. 175   d. 167

11. Determine the number of students who have occupied seats in Tabla and Violin Class but not in Guitar Class.
a. 9   b. 11   c. 13   d. 7

12. Pipe A can fill a tank 5 times faster than Pipe B and takes 32 minutes less than Pipe B to fill the tank. If both the pipes are opened together, then in how much time the tank would be full?
a. 32/3 minutes   b. 32/5 minutes   c. 20/3 minutes   d. 5/32 minutes

13. Two pipes M and N can fill a tank in 22.5 and 15 minutes, respectively. If both the pipes are opened simultaneously, after how much time should N be closed so that the tank is full in 18 minutes?
a. 4 minutes   b. 3 minutes   c. 4.5 minutes   d. 2.5 minutes

14. Two pipes M and N are opened together to fill a tank. Both the pipes fill the tank in time X minutes. When M alone is filling the tank, it takes 9 minutes more time than X to fill the tank. In a similar manner N takes 16 minutes more time than X to fill the tank. What is the value of X?
a. 12 minutes   b. 7 minutes   c. 25 minutes   d. 144 minutes

15. Pipe P can fill a tank in 38 hours. Pipe Q alone can fill it in 19 hours. Pipe R can empty the full tank in 133 hours. If all the pipes are opened together, how much time will be needed to make the tank full?
a. 28 hours   b. 95 hours   c. 19 hours   d. 14 hours

16. Two pipes M and N can fill a pool in 40 minutes and 60 minutes, respectively. The entire pool can completely be emptied by another pipe P in 30 minutes. M, N and P are opened alternatively and each is kept open for just 1 minute. In how much time will the pool be filled?
a. 180 minutes   b. 167 minutes   c. 177 minutes   d. 165 minutes

17. The present ages of Aman and Nina are 59 and 37 years, respectively. What was the ratio of the ages of Nina and Aman 13 years ago?
a. 3:2   b. 46:25   c. 12:23   d. 8:3

18. Rohan is as much younger than Ajay as he is older than Meena. The sum of ages of Ajay and Meena is 108 years. How old is Rohan?
a. 32 years   b. 64 years   c. 52 years   d. 36 years

19. Average age of a family of 4 members was 19 years, 4 years back. Birth of a new child kept the average age of the family same even today. How old is the child today?
a. 4 years   b. 1 year   c. 2 years   d. 3 years

20. 12 years ago, age of P was 3 times the age of Q. After 12 years, ratio of ages of Q to P will be 2:3. What is the present age of P?
a. 54 years   b. 36 years   c. 24 years   d. 144 years

21. Chandan buys some sugar at $ 15 per kg. He mixes it with sugar having price $ 18 per kg. The final mixture becomes worth $ 16 per kg. What is the ratio of quantities of type 1 sugar to type 2 sugar?
a. 2:1   b. 1:2   c. 5:6   d. 6:5

22. One can is completely filled and contains 100% water. Another similar can is completely filled with a solution of 50% wine and 50% water. When both the cans are emptied in a steel vessel, what will be ratio of water to wine in the vessel?
a. 1:1   b. 1:3   c. 2:1   d. 3:1

23. A solution of honey and water is 28 litres, with honey and water in ratio 4:3. To this a 21 litre honey-water solution is added that has honey to water ratio as 2:1. Again a 51 litre honey-water solution that has honey to water ratio as 9:8 is added to this. After this 10 litre of the solution is replaced with pure honey. What is ratio of water to honey in the final mixture?
a. 613:387   b. 15:12   c. 72:24   d. 387:613

24. Ramesh mixes 60 litres of Type-1 acid with some litres of Type-2 acid. Type-1 acid rate is $ 32 per litre while Type-2 rate is $ 23 per litre. Ramesh sells this acid-mix at rate $ 28 per litre. How much Type-2 acid is needed to make it a no profit no loss transaction?
a. 48 litres   b. 36 litres   c. 24 litres   d. 50 litres

25. One glass has juice and water in the ratio 5:2 while other glass has them in ratio 7:4, respectively. If both glasses poured in a vessel, then what will be final ratio of water to juice in the vessel?
a. 8:35   b. 52:25   c. 35:8   d. 25:52

26. The number of non-zero rows in an echlon form is called ?
a. rank of a matrix
b. cofactor of the matrix
c. reduced echlon form
d. conjugate of the matrix

27. If $|A| = 0$, then A is
a. 0   b. zero matrix   c. singular matrix   d. non-singular matrix

28. If A is a symmetric matrix, then At =
a. 0   b. A   c. $|A|$ d, diagonal matrix

29. Additive inverse of a matrix A is
a. adj A/$|A|$ b. A^2 c. $|A|$ d. A

30. Transpose of a column matrix is
a. Zero matrix   b. diagonal matrix   c. column matrix   d. row matrix

SECTION-B

Aptitude Questions

31. 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

32. 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

33. 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

34. 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

35. 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

36. 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

37. 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

38. 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

39. 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

40. Choose the odd pair of words

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

41. Choose the odd pair.
a. Bottle – Wine
b. Ball – Bat
c. Cup – Tea
d. Pitcher – Water

42. Choose the odd pair of words.
a. China – Beijing
b. Russia – Moscow
c. Spain – Madrid
d. Japan – Ottawa

43. Choose the odd pair.
a. Wide - Broad
b. Large – Big
c. Heavy - Light
d. Small - Tiny

44. Choose the odd pair of words
a. Bass - Shoal
b. Albatross – Rookery
c. Coyotes – Band
d. Man – Woman

45. 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

46. 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

47. 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

48. 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

49. 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

50. 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

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	c
32	d
33	c
34	b
35	d
36	a
37	d
38	b
39	a
40	a
41	b
42	d
43	c
44	d

45 b
46 a
47 c
48 a
49 c
50 b