

**M.B.A (Business Analytics)
Entrance Examination - 2021
(75 Marks)**

Hall Ticket No.

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INSTRUCTIONS

1. Write your Hall Ticket Number in the OMR Answer sheet given to you. Also write the Hall Ticket Number in the space provided above.
2. The question paper booklet consists of 75 questions. Each question carries one (1) mark.
3. There is negative marking. Each wrong answer carries - 0.33 marks.
4. Answers are to be marked on the OMR answer sheet following the instructions provided there upon.
5. Hand over OMR answer sheet to the invigilator before leaving the examination hall.
6. No additional sheets will be provided. Rough work can be done in the question paper itself or in the space provided at the end of the booklet.
7. Calculators, mobile phones and electronic gadgets are not allowed.

Directions for questions 1 to 5: In each of the following questions, there is a certain common relationship between two given groups of letters on one side/left side (::) and one word is given on the another side/right side (::) while another word is to be found from the given options/alternatives, having the same relationship with this word as the words of the given pair bear. Choose the correct alternatives to form the same relationship.

1. Miserly: Cheap :: Homogeneous: _____
 - A. Extravagant
 - B. Unkind
 - C. Alike
 - D. Friendly
2. Myopic: Farsighted :: _____: Obscure
 - A. Benevolent
 - B. Famous
 - C. Turgid
 - D. Wasted
3. Defeat: Vanquish :: Search: _____
 - A. Peer
 - B. Ransack
 - C. Destroy
 - D. Find
4. Alleviate: Aggravate :: Elastic: -----
 - A. Rigid
 - B. Flexible
 - C. Malleable
 - D. Strong
5. Dither: Settle :: Display : _____
 - A. Corrupt
 - B. Bother
 - C. Hide
 - D. Count

Directions for questions 6 to 10: From the given words, choose a word which means almost the same as given below.

6. Ignominy
 - A. Exposure
 - B. Stupidity
 - C. Disgrace
 - D. Trial

7. Immutable

- A. Unchangeable
- B. Important
- C. Awful
- D. Unique

8. Fiasco

- A. Fortune
- B. Disgrace
- C. Feast
- D. Debacle

9. Apportion

- A. Divide
- B. Decide
- C. Cut
- D. Squabble

10. Garrulous

- A. Positive
- B. Talkative
- C. Reserved
- D. Sedative

Directions for questions 11 to 15: From the given words, choose a word which means the almost opposite as the given word.

11. Abhor

- A. Abominate
- B. Adore
- C. Detest
- D. Despise

12. Parsimony

- A. generosity
- B. sinfulness
- C. verbosity
- D. tenderness

13. Adroit

- A. Clumsy
- B. Left
- C. Diplomatic
- D. Unpersuasive

14. **Disparage**
A. Hesitate
B. Settle
C. Trouble
D. Applaud
15. **Perspicacious**
A. Calm
B. Easy
C. Dull
D. Winsome

Directions:(Q16-20) Choose the appropriate word relationship from the following to fill in the blanks.

16. Chronological is related to time in the same way as ordinal is related to -----
A. Truth
B. Knowledge
C. Value
D. Position
17. Amorphousness is to Definition as Lassitude is to -----
A. Energy
B. Awareness
C. Uniformity
D. Companionship
18. 'Pardon' is to 'Penalty' as 'Definitely' is to ----
A. Actually
B. Probably
C. Urgently
D. Positively
19. Water is related to oxygen as salt is to ----
A. Iron
B. Sodium
C. Calcium
D. Proteins

20. Money is to transaction as language is to -----
- A. Ideas
 - B. Execution
 - C. Conversation
 - D. Information
21. If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$, then what will be the value of $\frac{\tan x}{\tan y}$?
- A. $\frac{a}{b}$
 - B. $\frac{b}{a}$
 - C. $\frac{a+b}{a-b}$
 - D. $\frac{a-b}{a+b}$
22. The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \dots \dots \tan 89^\circ$ is:
- A. 0
 - B. $\frac{1}{\sqrt{2}}$
 - C. $\frac{1}{2}$
 - D. 1
23. If a and b belong to the set {1, 2, 3, 4} then number of equations of $ax^2+bx+1 = 0$ having real solutions is:
- A. 6
 - B. 7
 - C. 10
 - D. 12

24. If $x = \frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$ and $y = \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}}$ then what will be value of $(x^2 - y^2)$ (approximately)?

- A. 16
- B. 15
- C. 64
- D. 56

25. What will be equivalent of $(362.35)_8$ when converted into a decimal number?

- A. $(1066.06640625)_{10}$
- B. $(242.453125)_{10}$
- C. $(FE.7AA)_{16}$
- D. $(FE7A.A)_{16}$

26. For what values of 'x' will the function $\sqrt{x^2 - 6x - 40}$ be defined in the real domain?

- A. $-10 < x < 4$
- B. $-4 < x < 10$
- C. x does not lie in $[-10, 4]$
- D. x does not lie in $(-4, 10)$

27. Let $y = \sqrt{a + \sqrt{a + \sqrt{a + \dots - \infty}}}$, $y, a > 0$; then:

- A. $y = [1 \pm \sqrt{1+4a}]/2$
- B. $y = [1 \pm \sqrt{1-4a}]/2$
- C. $y = [1 + \sqrt{1+4a}]/2$
- D. $y = [1 - \sqrt{1+4a}]/2$

28. If $y = 3x - 2x^2 + \frac{x^3}{3}$ then the curve attains:
- Minima at $x = -1$ and maxima at $x = 3$
 - Minima at $x = -3$ and maxima at $x = -1$
 - Minima at $x = 1$ and maxima at $x = -3$
 - Minima at $x = 3$ and maxima at $x = 1$
29. What is the value of $\int \frac{8}{(x^3-4x)} dx$?
- $\ln\left(\frac{x^2-4}{x^2}\right) + C$
 - $\ln\left(\frac{x^2+4}{x^2}\right) + C$
 - $\ln\left(\frac{x^2-4x}{x^2}\right) + C$
 - $\ln\left(\frac{x^2+4x}{x^2}\right) + C$
30. The internal bisector of an angle A in a triangle ABC meets the side BC at point D. If $AB = 4$, $AC = 3$ and angle $A = 60^\circ$ then what is the length of the bisector AD?
- $12\sqrt{3}/7$
 - $12\sqrt{13}/7$
 - $4\sqrt{13}/7$
 - $4\sqrt{3}/7$
31. The inverse of the matrix $\begin{bmatrix} 2 & 1 & 0 \\ 1 & 2 & 1 \\ 0 & 1 & 2 \end{bmatrix}$ is:
- $\begin{bmatrix} 0.75 & -0.5 & 0.25 \\ -0.5 & -1 & -0.5 \\ 0.25 & -0.5 & -0.75 \end{bmatrix}$
 - $\begin{bmatrix} 0.75 & -0.5 & 0.25 \\ -0.5 & 1 & -0.5 \\ 0.25 & -0.5 & 0.75 \end{bmatrix}$

C. $\begin{bmatrix} 0.75 & 0.5 & 0.25 \\ -0.5 & 1 & -0.5 \\ 0.25 & -0.5 & -0.75 \end{bmatrix}$

D. $\begin{bmatrix} -0.75 & -0.5 & 0.25 \\ 0.5 & 1 & -0.5 \\ -0.25 & -0.5 & 0.75 \end{bmatrix}$

32. Given $a, b, c \in \mathbb{R} - \{0\}$, the matrix $\begin{bmatrix} a^2 & ab & ac \\ ab & b^2 & bc \\ ac & bc & c^2 \end{bmatrix}$ has:

- A. Three real, non-zero eigen values
- B. Complex eigen values
- C. Two real, non-zero eigen values
- D. Only one real, non-zero eigen value

33. In how many of the distinct permutations of the letters in the word 'MISSISSIPPI' do the 4 I's not come together?

- A. 39916800
- B. 34650
- C. 33810
- D. 840

34. A student has three library tickets and 8 books of his interest in the library. Of these 8, he does not want to borrow Algebra part II unless Algebra part I is borrowed. In how many ways can he chose the three books to be borrowed from the library?

- A. 26
- B. 27
- C. 41
- D. 56

35. Suppose that a test for using a particular drug is 99% sensitive and 99% specific. That is, the test will produce 99% true positive results for drug users and 99% true negative results for non-drug users. Suppose that 0.5% of people are users of the drug. What is the probability (%) that a randomly selected individual with a positive test is a user?
- A. 43.5
 - B. 33.2
 - C. 31.8
 - D. 25.4
36. In a more dispersed (spread out) set of data
- A. Difference between the mean and the median is greater
 - B. Value of the mode is greater
 - C. Standard deviation is greater
 - D. Inter quartile range is smaller
37. The sum of squares deviation for 10 observations taken from mean 50 is 250. The Coefficient of Variation is
- A. 50%
 - B. 10%
 - C. 40%
 - D. 12%
38. In a regression of X on Y, Y is
- A. The explained variable
 - B. Explanatory variable
 - C. A constant
 - D. Control variable
39. Which of the following are true
- i) The coefficient of correlation is never negative
 - ii) The rank correlation coefficient was developed by Spearman
 - iii) The coefficient of correlation is independent of change of scale and origin
- A. i) and ii)
 - B. i) and iii)
 - C. ii) and iii)
 - D. Only ii)

40. If the relationship between x and y is positive, as variable y decreases, variable x
- A. Increases
 - B. Decreases
 - C. Remains same
 - D. Changes linearly
41. With regard to a regression based forecast, the standard error of estimate gives a measure of
- A. Overall accuracy of the forecast
 - B. Time period for which the forecast is valid
 - C. Maximum error of the forecast
 - D. Minimum error of the forecast
42. The mode of a normal distribution is 70 with standard deviation 25. Then its mean will be
- A. 7
 - B. 700
 - C. 70
 - D. 2.8
43. Baye's theorem helps the statistician to calculate
- A. Classical Probability
 - B. Subjective Probability
 - C. Priori Probability
 - D. Posterior Probability
44. What is the probability of getting an even number when a die is tossed
- A. $1/3$
 - B. $1/2$
 - C. $1/6$
 - D. $1/5$
45. Which of the following is a case of type II error?
- A. The null hypothesis is false and accepted
 - B. The null hypothesis is true and rejected
 - C. The null hypothesis is true and accepted
 - D. The null hypothesis is false and rejected
46. Look at this series: 80, 10, 70, 20, 60, ... What number should come next?
- A. 20
 - B. 25
 - C. 30
 - D. 50

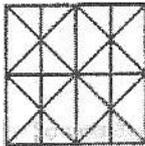
47. Which word is the odd man out?

- A. hate
- B. fondness
- C. liking
- D. attachment

48. Paw : Cat :: Hoof : ?

- A. Lamb
- B. Horse
- C. Elephant
- D. Tiger

49. Find the minimum number of straight lines required to make the given figure.



- A. 11
- B. 14
- C. 16
- D. 17

50. A university library budget committee must reduce exactly five of eight areas of expenditure—I, J, K, L, M, N, O and P—in accordance with the following conditions:

If both I and O are reduced, P is also reduced.

If L is reduced, neither N nor O is reduced.

If M is reduced, J is not reduced.

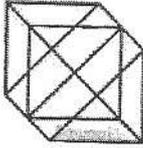
Of the three areas J, K, and N exactly two are reduced.

Question :

If both K and N are reduced, which one of the following is a pair of areas neither of which could be reduced?

- A. I, L
- B. J, L
- C. J, M
- D. I, J

51. Find the number of triangles in the given figure?

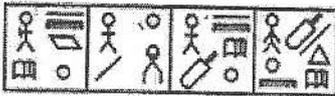


- A. 18
- B. 20
- C. 24
- D. 27

52. Select the alternative in which the specified components of the key figure (X) are found.



(X)



(1) (2) (3) (4)

- A. 1
- B. 2
- C. 3
- D. 4

53. Cat : Mouse

- A. Horse : Stable
- B. Trap : Cheese
- C. Bird : Worm
- D. Lion : Cage

54. Train : Track

- A. Idea : Brain
- B. Bullet : Barrel
- C. Water : Boat
- D. Fame : Television

55. Statement: Some cows are crows. Some crows are elephants.

Conclusion :

I. Some cows are elephants.

II. All crows are elephant.

A. Only I follows

B. Only II follows

C. Either I or II follows

D. Neither I or II follows

56. A is the mother of B and C. If D is the husband of C. What is A to D.

A. Mother

B. Sister

C. Aunt

D. Mother-in-law

57. Which one of the following is always found in "Bravery"?

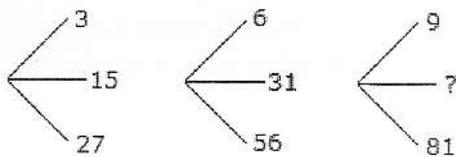
A. Experience

B. Power

C. Courage

D. Knowledge

58. Which one will replace the question mark?



A. 45

B. 41

C. 32

D. 40

59. How much was the total sale of the company?

Statements:

I: The company sold 8000 units of product A each costing Rs. 25.

II: This company has no other product line.

A. I alone is sufficient while II alone is not sufficient

B. II alone is sufficient while I alone is not sufficient

C. Either I or II is sufficient

D. Both I and II are sufficient

60. What will be the total weight of 10 poles, each of the same weight?

Statements:

One-fourth of the weight of each pole is 5 kg.

The total weight of three poles is 20 kilograms more than the total weight of two poles.

- A. I alone is sufficient while II alone is not sufficient
- B. II alone is sufficient while I alone is not sufficient
- C. Either I or II is sufficient
- D. Neither I nor II is sufficient

61. A train running at the speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train?

- A. 120 metres
- B. 180 metres
- C. 324 metres
- D. 150 metres

62. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?

- A.3
- B.4
- C.5
- D.6

63. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.

- A.2 : 3
- B.1 : 1
- C.3 : 4
- D.4 : 3

64. A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:

- A. Rs. 2000
- B. Rs. 10,000
- C. Rs. 15,000
- D. Rs. 20,000

65. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:

- A. 35 years
- B. 40 years
- C. 50 years
- D. None of these

66. The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is:

- A. 17 kg
- B. 20 kg
- C. 26 kg
- D. 31 kg

67. If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab .

- A. 10
- B. 12
- C. 15
- D. 18

68. The price of 2 sarces and 4 shirts is Rs.1600. With the same money one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, how much shall he have to pay?

A.Rs. 1200

B.Rs. 2400

C.Rs. 4800

D.Rs. 5565

69. The speed of a boat in still water is 15 km/hr and the rate of current is 3 km/hr. The distance travelled downstream in 12 minutes is:

A.1.2 km

B.1.8 km

C.2.4 km

D.3.6 km

70. A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:

A.100 kmph

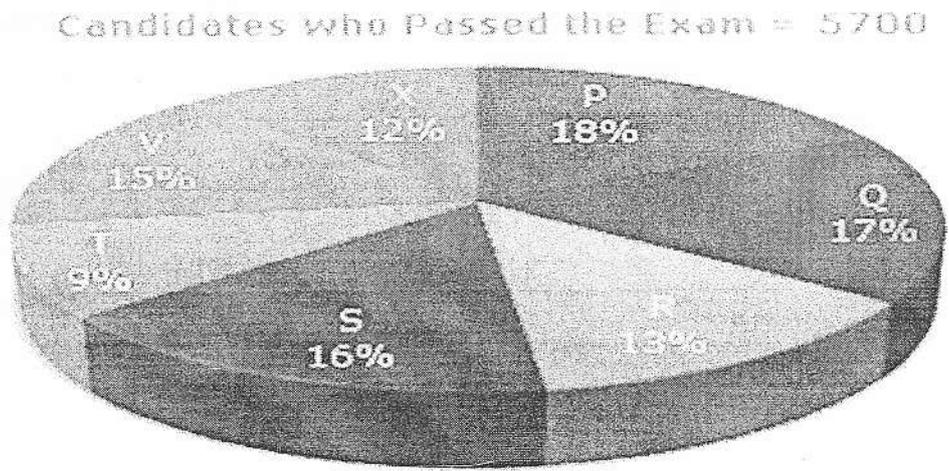
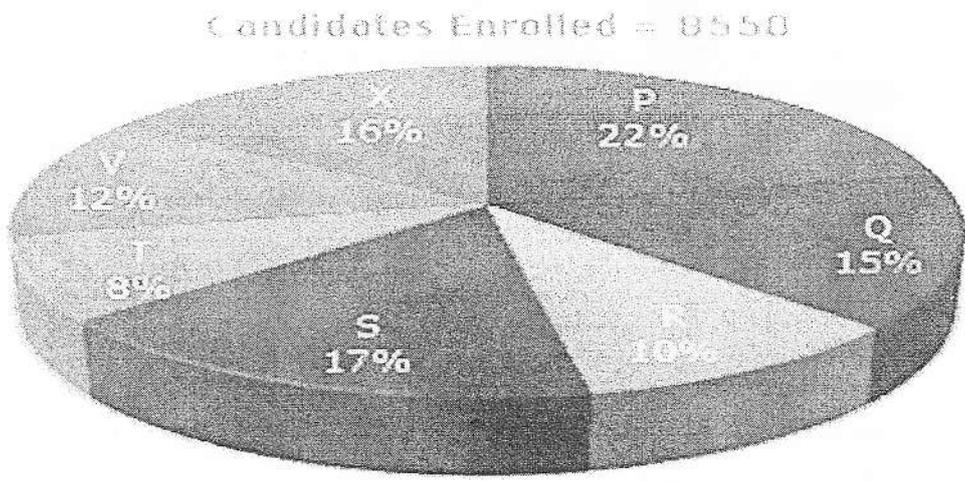
B.110 kmph

C.120 kmph

D.130 kmph

For questions numbered 71 to 75, read the description below, study the following graph carefully and answer the questions given below:

Distribution of candidates who were enrolled for MBA entrance exam(first pie chart) and the candidates (out of those enrolled) who passed (second pie chart) the exam in different institutes(X,P,Q,R,S,T,V). Candidates enrolled are 8550 and candidates who passed the exam are 5700:



71. What percentage of candidates passed the Exam from institute T out of the total number of candidates enrolled from the same institute?
- A.50%
 - B.62.5%
 - C.75%
 - D.80%

72. Which institute has the highest percentage of candidates passed to the candidates enrolled?

- A.Q
- B.R
- C.V
- D.T

73. The number of candidates passed from institutes S and P together exceeds the number of candidates enrolled from institutes T and R together by:

- A.228
- B.279
- C.399
- D.407

74. What is the percentage of candidates passed to the candidates enrolled for institutes Q and R together?

- A.68%
- B.80%
- C.74%
- D.65%

75. What is the ratio of candidates passed to the candidates enrolled from institute P?

- A.9 : 11
- B.14 : 17
- C.6 : 11
- D.9 : 17

University of Hyderabad
Entrance Examinations - 2021

School/Department/Centre : School of Management Studies
Course/Subject : MBA Business Analytics

Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
1	C	26	D	51	C
2	B	27	C	52	C
3	B	28	D	53	C
4	A	29	A	54	B
5	C	30	A	55	D
6	C	31	B	56	D
7	A	32	D	57	C
8	D	33	C	58	A
9	A	34	C	59	D
10	B	35	B	60	C
11	B	36	C	61	D
12	A	37	B	62	C
13	A	38	B	63	D
14	D	39	C	64	C
15	C	40	B	65	B
16	D	41	A	66	D
17	A	42	C	67	A
18	B	43	D	68	B
19	B	44	B	69	D
20	C	45	A	70	C
21	A	46	C	71	C
22	D	47	A	72	B
23	B	48	B	73	C
24	C	49	B	74	B
25	B	50	B	75	C

Note/Remarks: All the challenges were examined and after due verification of the key the challenges have been ruled out.

Signature of the Head/Dean
School/Department/Centre

University of Hyderabad
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Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
1	C	26	D	51	C
2	B	27	C	52	C
3	B	28	D	53	C
4	A	29	A	54	B
5	C	30	A	55	D
6	C	31	B	56	D
7	A	32	D	57	C
8	D	33	C	58	A
9	A	34	C	59	D
10	B	35	B	60	C
11	B	36	C	61	D
12	A	37	B	62	C
13	A	38	B	63	D
14	D	39	C	64	C
15	C	40	B	65	B
16	D	41	A	66	D
17	A	42	C	67	A
18	B	43	D	68	B
19	B	44	B	69	D
20	C	45	A	70	C
21	A	46	C	71	C
22	D	47	A	72	B
23	B	48	B	73	C
24	C	49	B	74	B
25	B	50	B	75	C

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