

HALL TICKET NO:

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**M.B.A (Business Analytics)**  
**Entrance Examination - 2020**  
**(75 Marks)**

**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: There is a certain relationship between two given words on one side of:: and one word is given on the another side of:: while another word is to be found from the given alternatives, having the same relation with this word as the given pair has . Select the best alternative.

1. Flow: River:: Stagnant : ?

- A. Rain
- B. Stream
- C. Pool
- D. Canal

2. South: North-West :: West : ?

- A. North
- B. South-West
- C. North-East
- D. East

3. Novelty : Oldness :: Newness : ?

- A. Model
- B. Antiquity
- C. Discovery
- D. Culture

4. Monotony : Variety :: Crudeness : ?

- A. Refinement
- B. Raw
- C. Sobriety
- D. Simplicity

5. Mountain : Hill :: Tree : ?

- A. Forest
- B. Shrub
- C. Leaf
- D. Ground

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

6. SLUMP

- A. Rise
- B. Disease
- C. Fall
- D. Theft

7. EMULATE

- A. Neglect
- B. Instigate
- C. Modify
- D. Imitate

8. MELLIFLUOUS

- A. Cunning
- B. Ugly
- C. Sinful
- D. Harmonic

9. SUMPTOUS

- A. Economical
- B. Splendid
- C. Slender
- D. Inferior

## 10. CORPULENT

- A. Lean
- B. Gaunt
- C. Obese
- D. Emaciated

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

## 11. FRANTIC

- A. Calm
- B. Hopeful
- C. Active
- D. Bitter

## 12. INFRINGEMENT

- A. Review
- B. Obedience
- C. Relaxation
- D. Revision

## 13. RELINQUISH

- A. Abdicate
  - B. Renounce
  - C. Possess
  - D. Deny
- f

## 14. CULPABLE

- A. Defendable
- B. Blameless
- C. Careless
- D. Irresponsible

## 15. OSTENTATION

- A. Semblance
- B. Flourish
- C. Modesty
- D. Boasting

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

16. Sympathy is related to Virtue in the same way as Cruelty is related to -----

- A. Vice
- B. Kindness
- C. Emotion
- D. Animosity

17. Win is related to Competition in the same way as Invention is related to -----

- A. Product
- B. Discovery
- C. Trail
- D. Laboratory

18. If is related to Condition in the same way as But is related to ----

- A. Disapproval
- B. Supplement
- C. Negation
- D. Contradiction

19. Accident is related to Carefulness in the same way as Disease is related to-----

- A. Sanitation
- B. Treatment
- C. Medicine
- D. Doctor

20. Demographer is related to People in the same way as Philatelist is related to -----

- A. Fossils
- B. Stamps
- C. Photography
- D. Music

21. The value of  $(\cos 12^\circ + \cos 84^\circ + \cos 132^\circ + \cos 156^\circ)$  is:

- A.  $\frac{1}{2}$
- B.  $-\frac{1}{2}$
- C.  $-\frac{3}{2}$
- D.  $\frac{1}{8}$

22. A number being successively divided by 3, 5 and 8 leaves remainders 1, 4 and 7 respectively. What would be the respective remainders, if the order of divisors be reversed?

- A. 8, 6, 4
- B. 6, 4, 3
- C. 6, 4, 2
- D. 2, 4, 6

23. Find the value of  $(2^{1/4}-1)(2^{3/4}+2^{1/2}+2^{1/4}+1)$ :
- A. 1
  - B. -1
  - C. 1.41
  - D. 2
24. How many words can be formed from the letters of the word "EXTRA" so that the vowels are never together?
- A. 48
  - B. 72
  - C. 120
  - D. 168
25. If  $(1+X)^n = C_0 + C_1X + C_2X^2 + \dots + C_nX^n$ , then what would be the value of the expression:  $C_1/C_0 + 2C_2/C_1 + 3C_3/C_2 + \dots + nC_n/C_{n-1}$ ?
- A.  $n/2$
  - B.  $n(n+1)$
  - C.  $n(n+1)/2$
  - D.  $n(n+1)/12$
26. An entomologist spots what might be a rare subspecies of beetle, due to the pattern on its back. In the rare subspecies, 98% have the pattern. In the common subspecies, 5% have the pattern. The rare subspecies accounts for only 0.1% of the population. How likely is the beetle having the pattern to be rare?
- A. 1.9%
  - B. 2.5%
  - C. 3.0%
  - D. 3.8%
27. How many real solutions the equation,  $3^x - 2x - 1 = 0$ , will have?
- A. No solution
  - B. Infinitely many solutions
  - C. One solution
  - D. Two solutions
28. For what value of "a", the inequality  $(a-2)x^2 - x - 1 \geq 0$  does not have a solution?
- A.  $7/4$
  - B.  $< 7/4$
  - C. 2
  - D.  $> 2$

29. If  $\log_2(9 - 2^x) = 10^{\log(3-x)}$ , then what is  $x$ ?
- 0
  - 3
  - 6
  - 3 and 6
30. Let  $x$  and  $y$  be positive integers such that  $x$  is prime and  $y$  is composite then:
- $(y - x)$  can't be an even integer
  - $xy$  can't be an even integer
  - $(x + y)/x$  can't be an even integer
  - None of the above
31. The shortest distance of the point  $(1/2, 1)$  from the curve  $y = |x - 1| + |x + 1|$  is:
- 0
  - 1
  - $\sqrt{2}$
  - $\sqrt{3}/2$
32. What is correct about the equation  $y = x^4 - 2x^2$ ?
- Increasing at  $(-\infty, -1)$ ,  $(0, 1)$  and decreasing at  $(-1, 0)$ ,  $(1, \infty)$
  - Increasing at  $(-\infty, -1)$ ,  $(0, 1)$  and remaining stable at  $(-1, 0)$ ,  $(1, \infty)$
  - Decreasing at  $(-\infty, -1)$ ,  $(0, 1)$  and increasing at  $(-1, 0)$ ,  $(1, \infty)$
  - Decreasing at  $(-\infty, -1)$ ,  $(0, 1)$  and remaining stable at  $(-1, 0)$ ,  $(1, \infty)$
33. For what values of  $\sin x$  and  $\cos x$ , the equation  $3 \cos x + 4 \sin x + 25$  attains its maximum?
- $(3/5, 4/5)$
  - $(4/5, 3/5)$
  - $(-3/5, -4/5)$
  - $(-4/5, -3/5)$
34. For a skew symmetric even ordered matrix "A of integers", which of the following will not hold true?
- $\det(A) = 9$
  - $\det(A) = 81$
  - $\det(A) = 7$
  - $\det(A) = 4$
35. Area bounded by the curve  $ay = 3(a^2 - x^2)$  and the x-axis is:
- $a^2$
  - $2a^2$
  - $3a^2$
  - $4a^2$



36. Arranging data into a table is called:
- A. Tabulation.
  - B. Frequency
  - C. Analysis
  - D. Interpretation
37. Arranging data so that the number of times each category occurs is called a(n) \_\_\_\_\_ table.
- A. cross-tabulation
  - B. frequency
  - C. percentage
  - D. pre-coding
38. If 60 males are asked if they recognize the brand name, "Focus," and 35 of them correctly identify the product as a model of Ford's product line within Ford Motor Co., the proportion of males in the sample who recognize this brand name is approximately:
- A. .6
  - B. .58
  - C. .35
  - D. .79
39. If a researcher wants to summarize the responses of subjects by gender and awareness of a particular brand ("Yes" or "No"), he or she would use a \_\_\_\_\_ contingency table.
- A. 1 X 2
  - B. 2 X 2
  - C. 2 X 3
  - D. 3 X 3
40. Data with which type of distribution are appropriate for division based on the median split?
- A. normally distributed
  - B. unimodal distribution
  - C. bimodal distribution
  - D. uniform distribution
41. When a researcher makes inferences about the meaning of the data from a research study and draws conclusions about what these data mean in terms of their implications, this is an example of:
- A. data indexing
  - B. data analysis
  - C. quadrant analysis
  - D. data interpretation

42. Which of the following becomes key indicator of whether or not a hypothesis can be supported?
- A. critical value
  - B. significance level
  - C. chi-square
  - D. degrees of freedom
43. In statistical testing, the significance level is commonly denoted by the symbol:
- A.  $\beta$
  - B.  $\alpha$
  - C.  $\mu$
  - D.  $\Omega$
44. If the population mean is expected to be 85 and the sample mean is 80, the sample standard deviation is 20, and the sample consists of 100 consumers, the observed value of the Z-statistic is approximately:
- A. 2.5
  - B. -10
  - C. -2.5
  - D. -0.25
45. The two types of errors researcher run the risk of committing when sampling are:
- A. primary and secondary errors
  - B. Type I and Type II errors
  - C. critical and noncritical errors
  - D. Type A and Type B errors
46. Which type of error occurs when the researcher concludes a relationship exists when in fact one does not exist?
- A. Type I
  - B. Type II
  - C. Type III
  - D. Type B
47. When the probability of a Type II error is \_\_\_\_\_, the probability of a Type I error is \_\_\_\_\_.
- A. reduced, increased
  - B. reduced; reduced
  - C. increased; increased
  - D. increased, reduced

48. When sample size ( $n$ ) is larger than \_\_\_\_\_, the  $t$ -distribution and  $Z$ -distribution are almost identical.
- A. 10
  - B. 20
  - C. 25
  - D. 30
49. Suppose that past research studies have found that 70 percent of a particular target market segment were aware of the Nike "swoosh" brand mark. If 65 percent of this target market in a sample of 60 people are aware of this brand mark, and if the standard error of the proportion is 0.06, the observed  $Z$ -test value is approximately:
- A. -13.19
  - B. -0.83
  - C. 0.83
  - D. 13.19
50. Suppose that you used a 9-point rating scale and that you wanted to compare men who had an annual income over \$50,000 (Group 1) with men who had an annual income less than or equal to \$50,000 (Group 2) on their liking of a new product. If you studied 40 men in Group 1 and they have a mean of 7 and a standard deviation of 2.5, while the 35 men in Group 2 have a mean of 5 and a standard deviation of 1.4, what is the approximate value of  $t$  using the  $t$ -test?
- A. 3.43
  - B. 4.19
  - C. 2.64
  - D. 2.79
51. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?
- A.  $1/3$
  - B.  $3/4$
  - C.  $7/19$
  - D.  $9/21$
52. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?
- A.  $1/2$
  - B.  $3/4$
  - C.  $3/8$
  - D.  $5/16$

53. The cost price of 20 units of product A is the same as the selling price of x units of A. If the profit is 25%, then the value of x is:
- A. 12
  - B. 25
  - C. 18
  - D. 16
54. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:
- A. 5
  - B. 8
  - C. 10
  - D. 12
55. 66 cubic centimetres of a metal is drawn into a wire 1 mm in diameter. The length of the wire in metres will be:
- A. 124
  - B. 104
  - C. 64
  - D. 84
56. 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. 40
  - B. 35
  - C. 50
  - D. 37
57. Starting from 12'o clock in the afternoon, how many degrees the hour hand would turn by the time it is 10 minutes past five in the evening on the same day?
- A. 150
  - B. 155
  - C. 145
  - D. 130
58. An error 2% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:
- A. 4.04
  - B. 2.02
  - C. 4
  - D. 2

59. The length of a rectangular plot is 20 metres more than its breadth. If the cost of fencing the plot @ Rs.26.50 per metre is Rs. 5300, what is the length of the plot in metres?
- A. 40
  - B. 60
  - C. 50
  - D. 55
60. In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?
- A. 480
  - B. 240
  - C. 360
  - D. 720
61. If  $\log 27 = 1.431$ , then the value of  $\log 9$  is:
- A. .477
  - B. .954
  - C. .623
  - D. .266
62. If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:
- A. 60Km
  - B. 40Km
  - C. 50Km
  - D. 20Km
63. What least number must be added to 1056, so that the sum is completely divisible by 23 ?
- A. 5
  - B. 3
  - C. 2
  - D. 7
64. A boat running upstream takes 8 hours 48 minutes to cover a certain distance, while it takes 4 hours to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of the water current respectively?
- A. 8 : 3
  - B. 2 : 1
  - C. 3 : 2
  - D. 8 : 2

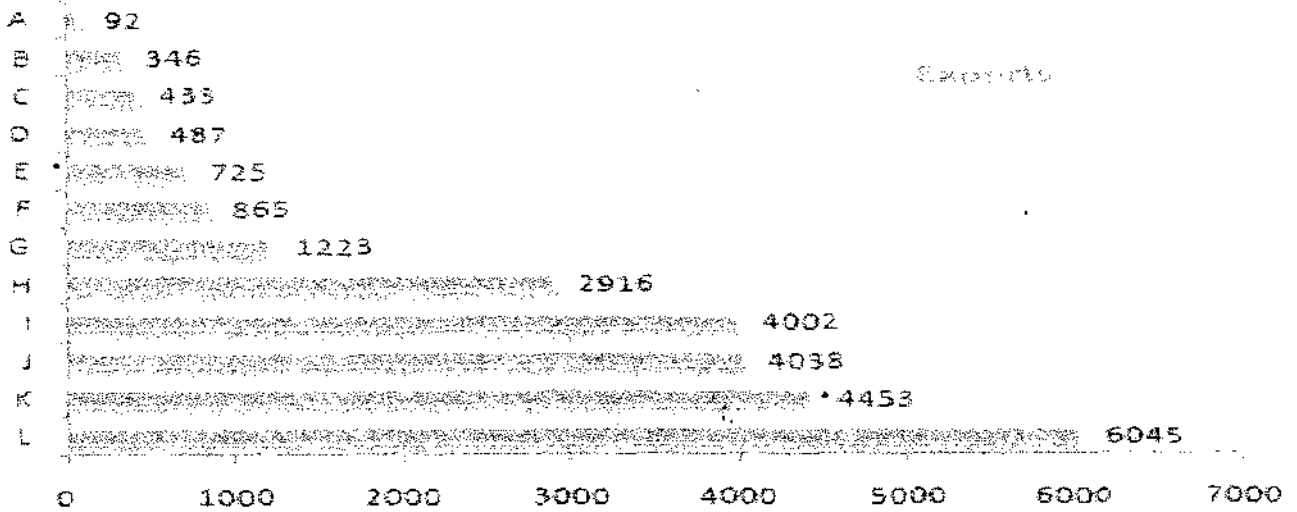
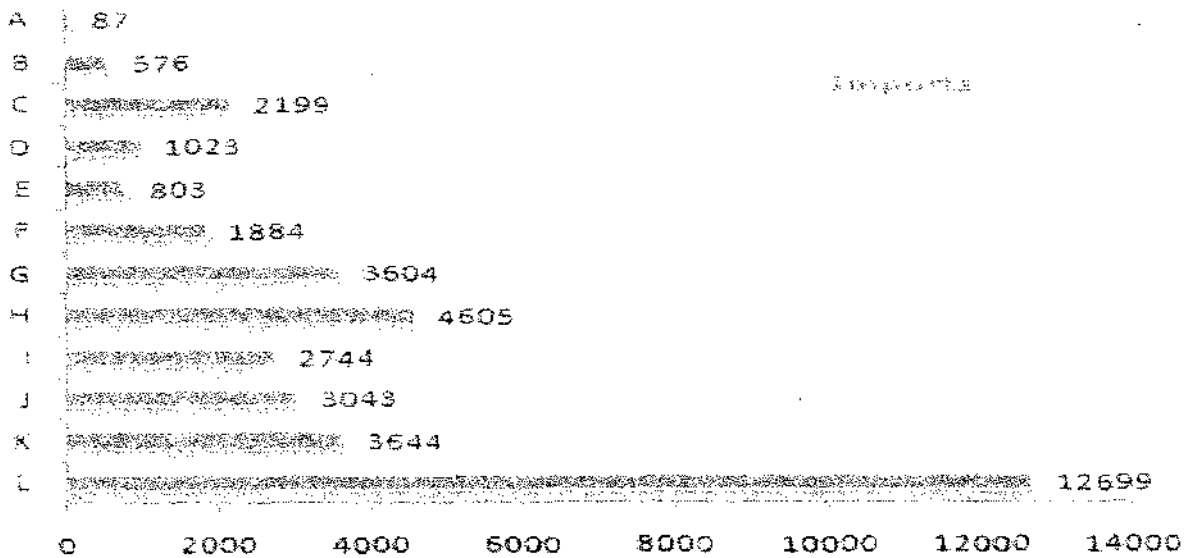
65. The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum?
- A. 7
  - B. 6
  - C. 10
  - D. 8
66. X and Y invest in a business in the ratio 3: 2. If 5% of the total profit goes to charity and X's share is Rs. 855, the total profit is:
- A. Rs.1500
  - B. Rs.1585
  - C. Rs.1475
  - D. Rs.1450
67. The cube root of .000216 is:
- A. 0.07
  - B. 0.05
  - C. 0.08
  - D. 0.06
68. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:
- A. 3:5
  - B. 4:5
  - C. 5:7
  - D. 2:5
69. The sum of the squares of three numbers is 138, while the sum of their products taken two at a time is 131. Their sum is:
- A. 15
  - B. 20
  - C. 40
  - D. 30
70. Find a positive number which when increased by 17 is equal to 60 times the reciprocal of the number.
- A. 20
  - B. 17
  - C. 10
  - D. 3

Note: Questions 71 to 75 are based on the charts shown below:

Study the following bar charts and answer the questions from 71 to 75.

The following charts show Foreign Trade (Imports and Exports) by countries for the year (2018 - 2019).

Countries (A to I) are shown on the Y axis and the corresponding imports/exports (in millions of dollars) are shown on the X axis



71. The ratio of the maximum exports to the minimum imports was closest to?

- A. 64
- B. 74
- C. 69
- D. 85

72. How many countries exhibited a trade surplus for the given period?
- A. 4
  - B. 3
  - C. 2
  - D. 7
73. The total trade deficit/surplus (in millions of dollars) for all the countries put together was?
- A. 11286 surplus
  - B. 11286 deficit
  - C. 10286 deficit
  - D. 10286 surplus
74. The highest trade deficit was shown by which country?
- A. Country D
  - B. Country A
  - C. Country L
  - D. Country K
75. The ratio of Exports to Imports was highest for which country?
- A. Country J
  - B. Country B
  - C. Country I
  - D. Country K