M.B.A (Business Analytics)
Entrance Examination – 2017
(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 75questions. 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 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.*

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1. If A: B = 7:5, B: C = 3:4. Now C is 30, A =?
   A. 42
   B. 47.5
   C. 40
   D. 31.5

2. In a code language if DRIVER = 7, PEDESTRIAN = 11, what is the code for ACCIDENT?
   A. 9
   B. 8
   C. 6
   D. 18

3. If B =25 and C = 24, encode '96872'
   A. DUSTY
   B. HASTY
   C. RUSTY
   D. POSTS

4. If 'DEAR' is coded as 7 and 'BEARS' as 9, what should be the code for 'WAX'?
   A. 10
   B. 12
   C. 16
   D. None of these

5. LATE : PEXI :: TRACE : _____
   A. XVELI
   B. XVEGI
   C. XVFGI
   D. XUEGH

Directions for questions 6 to 10: Two items or words bear a particular relation with each other. Pick up the right combination of word/item that bears similar relation

6. Net : Ball   :: ?
   A. Winter:Weather
   B. Game:Penant
   C. Hook:Fish
   D. Stadium:Seats

7. Sparrow : Bird   :: ?
   A. Rain : Snow
   B. Hand:Clock
   C. Struggle:Wrestle
   D. Patch:Thread

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8. Kick : Football   :: ?
    A. Manager: Team
    B. Break:Pieces
    C. Smoke:Pipe
    D. Kill:Bomb

9. Warm: Hot   ::?
    A. Bright: Genius
    B. Glue:Paste
    C. Climate:Weather
    D. Leaders:People

10. Day: Night   :: ?
    A. Spring: Summer
    B. Wednesday:Monday
    C. Man:Woman
    D. Light:Dark

Directions: For the questions 11 to 15, fill the missing number or letter in the given series

11. 2, 7, 17, 32, 52, 77, ?
    A. 97
    B. 91
    C. 101
    D. 107

12. 0, 1, 8, 15, 24, 35, 48,?
    A. 58
    B. 61
    C. 63
    D. 68

13. 1, 3, 4, 8, 15, 27, __ ?
    A. 60
    B. 59
    C. 43
    D. 50

14. 2, 5, 9, 19, 37,__?
    A. 64
    B. 55
    C. 75
    D. 40

15. R,M, ? ,F,D, ?
    A. I, C
    B. A, Q
    C. L, N
    D. B, Q

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Directions for questions 16 to 20. For the word given in each question, choose a word which means almost the same as the given word

16. Canny
   A. Obstinate
   B. Handsome
   C. Clever
   D. stout

17. Tepid
   A. Hot
   B. Lukewarm
   C. Cold
   D. Boiling

18. Embezzle
   A. Misappropriate
   B. Balance
   C. Remunerate
   D. Clear

19. Wary
   A. Sad
   B. Vigilant
   C. Distorted
   D. Tired

20. Mayhem
   A. Jubilation
   B. Havoc
   C. Excitement
   D. Defeat

21. If you have a negatively skewed distribution then:
   A. The mean, median and mode are equal
   B. The right-hand tail is extended
   C. The left-hand tail is extended
   D. None of the above

22. In statistical testing if you obtain an alpha (α) of 4%, what does this mean?
   A. The probability that the null hypothesis is true is 4%
   B. The probability that the null hypothesis is false is 4%
   C. The probability of obtaining the effect you have due to sampling error if the null hypothesis were true is 4%
   D. All of the above

23. Variables whose measurement is done in terms such as weight, height and length are classified as
    A. Continuous variables
    B. Measuring variables
    C. Flowchart variables
    D. Discrete variables

24. Two unbiased coins are tossed. What is probability of getting at most one tail?
    A. 1/2
    B. 1/3
    C. 3/2
    D. 3/4

25. In descriptive statistics, we study
    A. The description of decision making process
    B. The methods for organizing, displaying, and describing data
    C. How to describe the probability distribution
    D. None of the above

26. Which of the following would indicate that a dataset is not bell-shaped?
    A. The range is equal to 5 standard deviations.
    B. The range is larger than the interquartile range.
    C. The mean is much smaller than the median.
    D. There are no outliers.

27. If a test was generally very easy, except for a few students who had very low scores, then the distribution of scores would be _____.
    A. Positively skewed
    B. Negatively skewed
    C. Not skewed at all
    D. Normal

28. _____ are used when you want to visually examine the relationship between two quantitative variables.
    A. Bar graphs
    B. Pie graphs
    C. Line graphs
    D. Scatterplots

29. _____ results if you fail to reject the null hypothesis when the null hypothesis is actually false.
    A. Type I error
    B. Type II error
    C. Type III error
    D. Type IV error

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30. The specific statistical methods that can be used to summarize or to describe a collection of data is called:
    A. Descriptive statistics
    B. Inferential statistics
    C. Analytical statistics
    D. All of the above

31. The need for inferential statistical methods derives from the need for _____.
    A. Population
    B. Association
    C. Sampling
    D. Probability

32. _____ means separating items according to similar characteristics and grouping them into various classes.
    A. Tabulation
    B. Editing
    C. Separation
    D. Classification

33. In a moderately symmetric distribution mean, median and mode are connected by:
    A. Mode = 2 median – 3 mean
    B. Mode = 3 median – 4 mean
    C. Mode = 3 median – 2 mean
    D. Mode = 2 median – 4 mean

34. The variance of 15 observations is 4. If each observation is increased by 9, the variance of the resulting observation is:
    A. 2
    B. 3
    C. 4
    D. 5

35. A card is drawn from a well shuffled pack of playing cards. Find the probability that it is either a diamond or a king
    A. 4/26
    B. 4/13
    C. 17/52
    D. 16/13

36. The problem in Mathematics is given to three students A, B and C whose chances of solving it are 1/3, 1/4 and 1/2. The probability that the problem will be solved is
    A. 1/12
    B. 3/4
    C. 7/12
    D. None

37. Karl Pearson's coefficient of correlation method of measuring correlation is
    A. Graphic
    B. Mathematical
    C. Positional
    D. None of the above

38. Karl Pearson's coefficient of correlation is based on the assumption by
    A. Normality
    B. Platykurtic
    C. Leptokurtic
    D. None of the above

39. Which one of the following is a relative measure of dispersion?
    A. Standard deviation
    B. Variance
    C. Co-efficient of variation
    D. None of the above

40. When testing a hypothesis, a statistician initially assumes which of the following?
    A. The population parameter is known
    B. alternate hypothesis is true
    C. null hypothesis is false
    D. null hypothesis is true

41. Which of the following does not represent one method to obtain primary source data?
    A. Making observations
    B. Sending a survey to customers
    C. Conducting an experiment
    D. Looking in professional magazines

42. Which of the following is the most appropriate measure of central tendency for ordinal data?
    A. Variance
    B. Mean
    C. Coefficient of Variation
    D. Median

43. A standard normal distribution has which of the following properties?
    A. The mean and the variance both equal 1
    B. The mean is equal to 0 and the variance is equal to 1
    C. The mean is equal to the standard deviation
    D. The mean is equal to the variance

44. We can measure the cause and effect relationship by the help of
    A. Time series analysis
    B. Cross-sectional analysis
    C. Correlation analysis
    D. Regression analysis

45. Classification of respondents only on the basis of gender is an application of
    A. Ordinal Scale
    B. Nominal Scale
    C. Interval Scale
    D. Ratio Scale

46. The value of $\dfrac{\sqrt{(1+a)^2}+\sqrt{(a-1)^2}}{\sqrt{(1+a)^2}-\sqrt{(a-1)^2}}$, for $0 < a < 1$, is
    A. a
    B. 1/a
    C. (a-1) / (a+1)
    D. none of these

47. What number should be subtracted from $x^3 + 4x^2 - 7x + 12$ if it is to be perfectly divisible by x + 3?
    A. 13
    B. 39
    C. 42
    D. none of these

48. The value of $\log_{0.01}^{0.001}$
    A. 1/5
    B. 2/3
    C. 3
    D. 3/2

49. What is the remainder when $9^1 + 9^2 + 9^3 + ... + 9^8$ is divided by 6?
    A. 0
    B. 2
    C. 3
    D. 4

50. If f(x) is the number of primes less than or equal to x, find the value of f(90) - f(80).
    A. 1
    B. 2
    C. 3
    D. 4

51. The equation $2x^2 + 2(p + 1)x + p = 0$, where p is real, always has roots that are
    A. Equal
    B. magnitudes are equal but opposite in sign
    C. Real
    D. complex

52. How many integers, greater than 999 but not greater than 4000, can be formed with the digits 0, 1, 2, 3 and 4, if repetition of digits is allowed?
    A. 399
    B. 400
    C. 375
    D. 376

53. Let $y = \sqrt{12 + \sqrt{12 + \sqrt{12 + - - - \infty}}}$ then what is the value of y?
   A. 4
   B. 8
   C. 12
   D. both (a) and (c)

54. What is the equation of the line that is parallel to the line 3x + 7y = 10 and passes through the point (4, 8)?
   A. 7x – 3y = 10
   B. 3x + 7y = 44
   C. 7x – 3y = 20
   D. 3x + 7y = 68

55. Find the range of real values of x satisfying the inequalities 3x - 2 > 7 and 4x - 13 > 15.
   A.   x > 7
   B.   x < 7
   C.   x > 3
   D.   x < 3

56. 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)

57. In a class of 120 students numbered 1 to 120, all even numbered students opt for Physics, whose numbers are divisible by 5 opt for Chemistry and those whose numbers are divisible by 7 opt for Math. How many opt for none of the three subjects?
   A. 39
   B. 41
   C. 26
   D. 36

58. What is the probability that a two digit number selected at random will be a multiple of '3' and not a multiple of '5'?
   A. 1/15
   B. 2/15
   C. 4/15
   D. 4/90

59. The value of $(x + 3y)(x^2 - 3xy + 9y^2)$ is
   A. 0
   B. 1
   C. $x^3 + 27y^3$
   D. $x^3 - 27y^3$

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60. Compute the partial derivative of the function $f(x, y, z) = e^{1-x \cos(y)} + z\, e^{-1/(1+y^2)}$ with respect to x at the point $(1, 0, \pi)$:

    A. -1

    B. -1/e

    C. 0

    D. π/e

61. Which of the following is the 16th term of A.P. if 6th term is 12 and 8th term is 22?

    A. 60

    B. 61

    C. 62

    D. 63

62. 45% of 280 + 28% of 450 =?

    A. 352

    B. 252

    C. 452

    D. 552

63. Sixty five percent of a number is 21 less than 4/5 th of that number. Find the number.

    A. 140

    B. 130

    C. 120

    D. 110

64. The population of a town is 176400. It increases annually at the rate of 5% per annum. What will be its population after 2 years?

    A. 194481

    B. 294481

    C. 394481

    D. 494481

65. In the event that a:b =1:3, b:c = 5:7 and c:d = 9:8 ,find a:b:c:d.

    A. 45:15:63:56

    B. 63:45:15:56

    C. 15:45:63:56

    D. 15:63:45:56

66. In the event that (x+y): (x-y) = 4:1, then (x2+y2): (x2-y2) =?

    A. 17/8

    B. 19/8

    C. 15/8

    D. 13/8

67. If the mean of 5 observation z, z + 2, z + 4, z + 6 and z + 8 is 11, then the mean of the last three observation is?

    A. 11

    B. 13

    C. 15

    D. 17

68. What is fraction equivalent of 160%.
    A. 8/5
    B. 9/5
    C. 6/7
    D. 6/23

69. A vendor bought 6 oranges for Re 10 and sold them at 4 for Re 6. Find his loss or gain percent.
    A. 8% gain
    B. 10% gain
    C. 8% loss
    D. 10% loss

70. The Cost Price of 25 articles is equal to Selling Price of 20 articles. Find the loss or gain percent.
    A. 35% gain
    B. 30% loss
    C. 25% gain
    D. 25% loss

For questions 71 to 75 Study the table carefully answer the questions given below.

In six years, the number of students taking admissions and leaving from the five different colleges which were founded in 2010 is given below.

Note:
A-Admitted
L - Leaving

College	I		II		III		IV		V	
Years	A	L	A	L	A	L	A	L	A	L
2010	1125	---	1050	---	1200	---	1600	---	1550	---
2011	330	220	450	250	420	230	440	250	350	225
2012	290	210	325	215	400	250	400	260	380	230
2013	345	200	285	210	360	225	395	220	410	220
2014	380	250	300	190	340	240	420	225	440	210
2015	350	230	340	220	410	280	460	240	425	215

71. What is the average number of students studying in all the five colleges in 2012?
    A. 1594
    B. 1694
    C. 1574
    D. 1584

72. What was the number of students studying in college II till 2014?
    A. 1555
    B. 1445
    C. 1545
    D. 1645

73. The number of students leaving college II from the year 2010 to 2015 is approximately what per cent of the number of students taking admission in the same college and during the same years?
    A. 37%
    B. 43%
    C. 39%
    D. 41%

74. What is the difference between the number of students taking admission between 2011 and 2015 in college IV and II?
    A. 415
    B. 395
    C. 435
    D. 385

75. In which of the following colleges, is the percentage increase in the number of students from the year 2010 to 2015 the maximum?
    A. I
    B. II
    C. III
    D. IV

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