PUNE VIDYARTHI GRIHA'S

COLLEGE OF SCIENCE AND TECHNOLOGY

Affiliated to University of Mumbai

Question Bank

Class:F.Y.BMS **Semester: II**

Subject: Business Mathematics

UNIT 1

1. The simple interest on Rs 20000 for 3.5 years at 6% rate of interest per annum is Rs _____
    a) 4200
    b) 1200
    c) 500
    d) 400
2. Interest is calculated in _____ ways
    a) 1
    b) 2
    c) 3
    d) 4
3. The series of payments made at successive intervals of time is called _____
    a) Annuity
    b) Simple interest
    c) Compound interest
    d) Depreciation
4. The present value at 5% rate of interest of Rs 7408.8 payable 3 years from now is _____
    a) 5000
    b) 6400
    c) 1200
    d) 3600
5. Functions are divided into _____ types
    a) 1
    b) 2
    c) 3
    d) 4
6. The value of 6! Is _____
    a) 6
    b) 12
    c) 720
    d) 240

7. n_{P_0}=_____
    a) n
    b) 0
    c) 1
    d) -1
8. Pnr/100=_____
    a) Simple interest
    b) Compound interest
    c) Present value
    d) Future value
9. Amount is also known as _____ value
    a) Accumulated
    b) Principal
    c) Real
    d) Future
10. The compound interest on Rs 10000 at 5 % pa for 3 yrs is _____
    a) 1500
    b) 1600
    c) 1400
    d) None of these
11. The simple interest on Rs 15000 for 8 months at 10% p.a is _____
    a) Rs 1000
    b) Rs 1500
    c) Rs 1050
    d) None of the above
12. The future value of an amount is always _____ the present value
    a) Greater than
    b) Less than
    c) Equal to
    d) None of the above
13. In EMI calculation, the rate of interest is compounded _____

    Quaterly

    Yearly

    Monthly

    Six monthly

14. If the payments are made equally over successive periods the annuity is called _____
a) Annuity due
b) Immediate annuity
c) Uniform annuity
d) Simple interest
15. _____ is given by $A=P(1-i)^n$

a) Simple interest
b) Compound interest
c) Present value
d) Depriciation

16. _____ is given by $A=P(1+i)^n$
a) Future value
b) Compound interest
c) Present value
d) Depriciation

17. _____ is given by $P=A/(1+i)^n$
a) Simple interest
b) Compound interest
c) Present value
d) Depriciation

18. Derivative of x^2 is _____
a) X
b) 2x
c) 1
d) -1

19. The cost of production per unit is called _____
a) Cost
b) Average cost
c) Revenue
d) Average revenue

20. Y=7 is a _____ function
a) Constant
b) Linear
c) Exponential
d) Logarithmic

21. A^x is _____ function
a) Constant
b) Linear
c) Exponential
d) Power

22. e^x is _____ function
e) Constant
f) Linear
g) Exponential
h) Power

23. In how many ways can we arrange the word 'FUZZTONE' so that all the vowels come together?
a) 100
b) 2100
c) 2160
d) 60

24. A boy has nine trousers and 12 shirts. In how many different ways can he select a trouser and a shirt?
    a) 100
    b) 108
    c) 105
    d) 12
25. How many three letter words are formed using the letters of word the TIME?
    a) 1
    b) 12
    c) 24
    d) 50

Unit 2

26. The determinant of identity matrix is?
    A. 1
    B. 0
    C. Depends on the matrix
    D. A
27. If determinant of a matrix A is Zero then _____
    A. A is a Singular matrix
    B. A is a non-Singular matrix
    C. A is null matrix
    D. Empty Transformation
28. A matrix having one row and many columns is known as?
    A. Row matrix
    B. Column matrix
    C. Scalar matrix
    D. Diagonal matrix
29. There are _____ methods to find inverse of matrix
    a) 1
    b) 2

c) 3
d) 4

30. A square or a rectangular array of numbers written within sqaure brackets in a definite order in rows and columns is known as _____

a) formula
b) determinant
c) matrix
d) equation

31. If A and B matrices are of same order and A + B = B + A, this law is known as

a) distributive law
b) commutative law
c) associative law
d) cramer's law

32. A pair of equations to determine the value of 2 variables is called

a) simultaneous linear equations
b) paired equations
c) quadratic equations
d) simple equations

33. If a matrix has equal number of columns and rows then it is said to be a

a) row matrix
b) identical matrix
c) square matrix
d) rectangular matrix

34. If determinant of a matrix is equal to zero, then it is said to be

a) square matrix
b) singular matrix
c) non-singular matrix
d) identical matrix

35. If determinant of a matrix is equal to zero, then it is said to be

e) square matrix
f) singular matrix
g) non-singular matrix
h) identical matrix

36. We can add two matrices having real numbers A and B if their

a) order is same
b) rows are same
c) columns are same
d) elements are same

37. A diagonal matrix having equal elements is called a

a) square matrix
b) identical matrix
c) scalar matrix
d) rectangular matrix

38. If A, B and C matrices are of same order and (A + B) + C = A + (B + C), this law is known as

a) cramer's law
b) distributive law
c) commutative law
d) associative law

39. Generally the matrices are denoted by

a) capital letters
b) numbers
c) small letters
d) operational signs

40. A matrix with only 1 column is called

a) column matrix
b) row matrix
c) identical matrix
d) square matrix

41. A matrix with only 1 row is called

e) column matrix
f) row matrix
g) identical matrix
h) square matrix

42. Vertically arranged elements in a matrix are called

a) columns
b) rows
c) determinants
d) transpose

43. By changing the signs of all the elements of a matrix, we obtained

a) identical matrix
b) negative of a matrix
c) null/zero matrix
d) determinant of a matrix

44. If all elements in a matrix are zeros, then it is called a

a) column matrix
b) diagonal matrix
c) identical matrix
d) null/zero matrix

45. The theory of matrices was developed in

a) 1838
b) 1858
c) 1829
d) 1847

46. If a matrix ‘A’ has ‘m’ number of columns and ‘n’ number of rows then m × n is said to be

a) transpose of a matrix
b) order of a matrix
c) determinant of a matrix
d) equality of a matrix

47. A square matrix in which all the elements except at least the one element in the diagonal are zeros is said to be a

a) identical matrix
b) null/zero matrix
c) column matrix
d) diagonal matrix

48. The idea of matrices was introduced by Arthur Caylet in

a) 18th century
b) 19th century
c) 20th century
d) 21st century

49. In matrices $(AB)^{-1}$ equals to

a) A^{-1}
b) B^{-1}
c) $A^{-1} B^{-1}$
d) $B^{-1} A^{-1}$

50. If A is a matrix of order(m - by - n) then a matrix(n - by - m) obtained by interchanging the rows and columns of A is called the

a) additive inverse of A
b) transpose of A
c) determinant of A
d) order of A

UNIT 3

51. Derivative of x^2 is _____
    e) X
    f) 2x
    g) 1
    h) -1
52. The cost of production per unit is called _____

    Cost

    Average cost

    Revenue

    Average revenue

53. Derivative of constant function is _____
    a) X
    b) 2x
    c) 0
    d) -1
54. f is _____ on (a, b) if f'(x)>0 $\forall\ x \in (a, b)$

a) increasing
b) decreasing
c) maxima
d) minima

55. A function f is said to have local _____ if f'(x)>0 ∀ x € (a, b)
a) Increasing
b) decreasing
c) maxima
d) minima

56. If $f(x)=x^2$ then f'(x)=_____
a) 2x
b) x
c) 0
d) 1

57. f is _____ on (a, b) if f'(x)<0 $\forall\ x \in (a, b)$
a) increasing
b) decreasing
c) maxima
d) minima

58. A function f is said to have local _____ if f'(x)<0 ∀ x € (a, b)
a) Increasing
b) decreasing
c) maxima
d) minima

59. If D=S then it is known as _____ point
a) Equilibrium
b) Critical
c) Positive
d) Negative

60. If R=C then it is known as _____ point
a) Equilibrium
b) Break even
c) Positive
d) Negative

61. Price is a ____ function of demand
a) Increasing
b) Decreasing
c) Same
d) Unequal

62. If price increases supply _____
a) Increase
b) Decrease
c) Same
d) Unequal

63. R-C=_____

a) Profit
b) Loss
c) Debit
d) No profit no loss

64. The rate of change of y with respect to x is known as _____
a) Derivative
b) Function
c) Limit
d) Permutation

65. The product of price and demand is known as _____
a) Total revenue
b) Average revenue
c) Profit
d) Loss

66. If elasticity of demand is 0 then demand is said to be _____
a) Elastic
b) Inelastic
c) Cant say
d) Equal

67. $\frac{dC}{dX}$=_____
a) Marginal cost
b) Total cost
c) Marginal revenue
d) Total revenue

68. $\frac{d(AC)}{dX}$=_____
a) Marginal average cost
b) Total cost
c) Marginal revenue
d) Total revenue

69. $\frac{dR}{dD}$=_____
a) Marginal cost
b) Total cost
c) Marginal revenue
d) Total revenue

70. If elasticity of demand is greater than 1 then demand is said to be _____
a) Elastic
b) Inelastic
c) Cant say
d) Equal

71. If elasticity of demand is between 0 and 1 then demand is said to be _____
a) Elastic
b) Inelastic
c) Cant say
d) Equal

72. f is decreasing on (a, b) if f'(x)____0 $\forall\, x \in (a, b)$

a) <
b) >
c) =
d) /

73. A function f is said to have local maxima if f'(x)____0 ∀ x € (a, b)

a) <
b) >
c) =
d) /

74. A function f is said to have local minima if f'(x)____0 ∀ x € (a, b)

a) <
b) >
c) =
d) /

75. f is increasing on (a, b) if f'(x)____0 $\forall\ x \in (a, b)$

a) <
b) >
c) =
d) /

UNIT 4

76. Newton forward interpolation formula is used for _____ intervals

a) open
b) unequal
c) equal
d) closed

77. The Delta of power two is called the ____order difference operator

a) First
b) second
c) Third
d) Fourth

78. The relationship between E and delta is _____.

a) E =1-delta

b) E =1+delta
c) E = delta-1
d) E = delta

79. In case of Newton Backward Interpolation Formula which equation is correct to find u?
a) (x – xn) h = u
b) x + xn = uh
c) x – xn = u
d) x – xn = uh

80. Let h be the finite difference, then forward difference operator is defined by ____.
a) f(x) = f(x+h)-f(x)
b) f(x) = f(x-h)-f(x)
c) f(x) = f(x*h)
d) f(x) = f(x)

81. The shifting operator is denoted by _____.
a) E
b) nabla
c) omega
d) T

82. The process of finding the values inside the interval (X0, Xn) is called_____
a) Interpolation
b) Extrapolation
c) Iterative
d) Polynomial equation

83. The forward difference are denoted by _____
a) Δ
b) ∇
c) ∃
d) ∈

84. The backward difference are denoted by _____
a) Δ
b) ∇
c) ∃
d) ∈

85. Newton- Gregory Forward interpolation formula can be used _____
a) only for equally spaced intervals
b) only for unequally spaced intervals
c) for both equally and unequally spaced intervals
d) for unequally intervals