



PART – A

1. Fill appropriate preposition in the blank :

The bread is made _____ wheat flour.

- | | |
|-------|---------|
| A) of | B) from |
| C) in | D) on |

2. Find the appropriate homonym for Altar.

- | | |
|----------|-----------|
| A) Alter | B) Altor |
| C) Altur | D) Altair |

3. A Simile is a

- | | |
|----------------|---------------|
| A) Contrast | B) Parallel |
| C) Combination | D) Comparison |

4. Find the correct idiom.

- | | |
|---------------------------|-------------------------------|
| A) Better safe than sad | B) Better safe than serious |
| C) Better safe than sorry | D) Better safe than regretful |

5. Find the correct expression.

- | | |
|-----------------------|-------------------------|
| A) Between you and I | B) Between you and me |
| C) Between you and my | D) Between you and mine |

6. Pair with harp from the following.

- | | |
|---------|-------|
| A) on | B) at |
| C) upon | D) in |

7. Choose the correct homophone for Ascent.

- | | |
|-----------|-----------|
| A) Accent | B) Assent |
| C) Axent | D) Axant |

8. Which of the following is an Indian Grammarian ?

- | | |
|-----------|-------------|
| A) Bhash | B) Bharata |
| C) Panini | D) Prakasam |

9. Who is the Indian Nobel Laureate for Literature ?

- | | |
|------------------------|----------------------|
| A) Jatin Kumar Naik | B) Hargobind Khurana |
| C) Rabindranath Tagore | D) Mother Teresa |



10. Who among the following wrote The Jungle Book?
A) Mark Twaine
B) R.K. Narayan
C) Rudyard Kipling
D) Rabindranath Tagore
11. Rangaswamy Cup is associated with
A) Archery
B) Cricket
C) Football
D) Hockey
12. Who is the father of Geometry ?
A) Aristotle
B) Euclid
C) Pythagoras
D) Kepler
13. Shivaji's war strategy used against the Mughals was
A) Alert Army
B) Political Supremacy
C) Large Army
D) Guerilla Warfare
14. Marginal utility, a consumer derives from a good, is
A) Change in his total utility as a result of adding one unit to his stock of a good
B) Utility derived from a particular good
C) Change in utility derived as a result of a change in the price of a good
D) Change in his total utility when he buys extra units of a good
15. Joint Military Exercise Nomadic Elephant 2017 is being held between India and
A) Vietnam
B) Mongolia
C) Sri Lanka
D) Thailand
16. $1014 \times 986 = ?$
A) 998804
B) 998814
C) 998904
D) 999804
17. After deducting a commission of 5%, a T.V. set costs Rs. 9595. Its marked price is
A) Rs. 10,000
B) Rs. 10,075
C) Rs. 10,100
D) Rs. 10,500
18. At what rate percent per annum will a sum of money double in 16 years ?
A) 6.25% p.a.
B) 6.00% p.a.
C) 6.75% p.a.
D) 6.50% p.a.

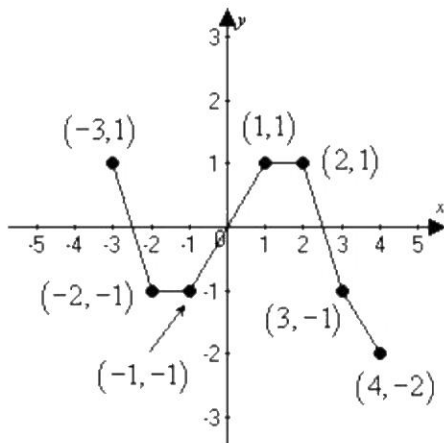


19. In a exam two papers maths and chemistry, 60% of the students pass in maths and 70% pass in chemistry. What is minimum percentage of students who could have failed in both the subjects ?
- A) 0% B) 30%
C) 40% D) None of these
20. A can do a piece of work in 80 days. He works at it for 10 days and then B alone finishes the remaining work in 42 days. In how much time will A and B working together, finish the work ?
- A) 40 days B) 35 days
C) 50 days D) 30 days
21. Choose the missing term out of the given alternatives Y, W, U, S, Q, ?, ?
- A) M, L B) J, R
C) L, M D) O, M
22. In a certain language, PEN is written as QDM, then how BOOK will be written in that code?
- A) CMJN B) CNNJ
C) CNLS D) NMJP
23. B, the son of A was married to C, whose sister D was married to E, the brother of B. How D is related to A ?
- A) Sister B) Daughter-in-law
C) Sister-in-law D) Cousin
24. Statements :
- I. The farmers have decided against selling their Kharif crops to the Government agencies.
II. The Government has reduced the procurement price of Kharif crops starting from the last month to the next six months.
- A) Statement I is the cause and statement II is its effect
B) Statement II is the cause and statement I is its effect
C) Both the statements I and II are independent causes
D) Both the statements I and II are effects of independent causes
25. Indiscreet is related to imprudent in the same way as Indisposed is related to
- A) Concerned B) Crucial
C) Clear D) Reluctant



PART – B

26. Use the graph to find the intervals on which it is increasing, decreasing or constant.



- A) Decreasing on $(-3, -2)$ and $(2, 4)$; increasing on $(-1, 1)$; constant on $(-2, -1)$ and $(1, 2)$
- B) Decreasing on $(-3, -1)$ and $(1, 4)$; increasing on $(-2, 1)$
- C) Decreasing on $(-3, -2)$ and $(2, 4)$; increasing on $(-1, 1)$
- D) Increasing on $(-3, -2)$ and $(2, 4)$; decreasing on $(-1, 1)$; constant on $(-2, -1)$ and $(1, 2)$

27. If $f(x) = 4x^2 + 3x + 5$; and $g(x) = 3x - 4$, find $g(f(x))$

- A) $4x^2 + 9x + 11$
- B) $12x^2 + 9x + 19$
- C) $4x^2 + 3x + 1$
- D) $12x^2 + 9x + 11$

28. Find the limit, if it exists $\lim_{x \rightarrow -6} \frac{x^2 + 12x + 36}{x + 6}$

- | | |
|--------|-------------------|
| A) 12 | B) 0 |
| C) 144 | D) Does not exist |



29. Find dy/dx , if $y = (4x^3 + 8)(2x^7 - 5)$

A) $80x^9 + 112x^6 - 60x^2$

B) $80x^9 + 112x^6 - 60x$

C) $16x^9 + 112x^6 - 60$

D) $16x^9 + 112x^6 - 60x$

30. Find an equation for the tangent to the curve at the given point : $y = x - x^2$, $(3, -6)$

A) $y = 5x + 9$

B) $y = -5x + 9$

C) $y = 7x - 9$

D) $y = 7x + 9$

31. Evaluate the integral $\int_{-4}^2 (-2x + 4) dx$

A) 48

B) 12

C) 72

D) 36

32. Let $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 0 & -1 \\ 3 & 4 & 5 \end{bmatrix}$. Which of the following is true ?

A) A is invertible since $\det(A) = 0$

B) A is not invertible since $\det(A) = 0$

C) A is invertible since $\det(A) \neq 0$

D) A is not invertible since $\det(A) \neq 0$

33. Which of the following formulas is false if x , y and z are positive ?

A) $\ln x^5 - \ln x^3 = 2 \ln x$

B) $2 \ln \frac{x}{y} + \ln \frac{y^2}{x^2} = 0$

C) $\ln \left[(x+y)^{1/5} z^{2/3} \right]^{1/5} = 3 \ln(x+y) + 10 \ln z$

D) $(\ln x)^4 = 4 \ln x$



34. For what value of k the matrix A , where $A = \begin{pmatrix} 2 & k \\ 3 & 5 \end{pmatrix}$ has no inverse ?

A) $3/10$

B) $10/3$

C) 3

D) 10

35. Which of the following statements about the function given by $f(x) = x^4 - 2x^3$ is true ?

A) The function has no relative extremum

B) The graph of the function has one point of inflection and the function has two relative extrema

C) The graph of the function has two points of inflection and the function has one relative extremum

D) The graph of the function has two points of inflection and the function has two relative extrema

36. Find all values of t for which the following determinant $\begin{vmatrix} 0 & t & 2 \\ 4 & -2 & 8 \\ 1 & 1 & t \end{vmatrix}$ is equal to 0

A) $t = -1$ and $t = 3$

B) $t = -1$

C) The determinant is never zero

D) $t = 3$

37. The minimum of $f(x) = 2x^2 - \ln x - 2$ for $x > 0$ occurs at

A) $x = 1/2$

B) $x = 2$

C) $x = e$

D) there is no minimum point

38. A bank offers a return of 4% compounded semi-annually. The future value of an investment of INR 1500 after 7 years will equal

A) 1979

B) 1543

C) 1123

D) 2103



39. If $f(x, y) = x^2 + y^2 - 4$. What are the level curves $f(x, y) = k$?
- A) Hyperbolas for $k < -4$
 - B) Parabolas
 - C) Straight lines
 - D) Circles for $k > -4$
40. The function $y = -2x_1^2 + 4x_1x_2 - 5x_2^2 + 2x_2x_3 - 3x_3^2 + 2x_1x_3$ is
- A) Positive definite
 - B) Negative semi-definite
 - C) Negative definite
 - D) Positive semi-definite
41. A single letter is selected at random from the word PROBABILITY. The probability that it is a vowel is
- A) $3/11$
 - B) $2/11$
 - C) $4/11$
 - D) 0
42. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls is blue ?
- A) $10/21$
 - B) $11/21$
 - C) $2/7$
 - D) $5/7$
43. Use a Venn diagram and the given information to determine the number of elements in the indicated region.
- $n(A) = 33, n(B) = 19, n(A \cap B) = 1, n(A' \cap B') = 9$. Find $n(U)$.
- A) 52
 - B) 60
 - C) 64
 - D) 51



44. The table below shows the results of a consumer survey of annual incomes in 100 households.

Income	No. of Households
0 – 14,999	8
15,000 – 34,999	21
25,000 – 34,999	29
35,000 – 44,999	25
45,000 or more	17

What is the probability that a household has an annual income between 15,000 and 44,999 inclusive ?

- A) 0.5
B) 0.75
C) 0.29
D) 0.46
45. A multiple-choice test has 30 questions. There are 4 choices for each question. A student who has not studied for the test decides to answer all the questions randomly by guessing the answer to each question. Which of the following probability distributions can be used to calculate the student's chance of getting atleast 20 questions right ?
- A) Binomial distribution
B) Poisson distribution
C) Exponential distribution
D) Uniform distribution
46. Which of the following cannot generate a Poisson distribution ?
- A) The number of cars arriving at a parking garage in a one-hour time interval
B) The number of customers arriving at a petrol station
C) The number of bacteria found in a cubic yard of soil
D) The number of misprints per page



47. What is statistical inference ?
- A) The process of drawing conclusions about a sample based on population data
 - B) The process of drawing conclusions about a statistic based on a parameter
 - C) The process of drawing conclusions about a population based on a parameter
 - D) The process of drawing conclusions about a population based on sample data
48. Consider a large population with a mean of 160 and a standard deviation of 25. A random sample of size 64 is taken from this population. What is the standard deviation of the sample mean?
- A) 3.125
 - B) 2.500
 - C) 3.750
 - D) 5.625
49. If the mean and variance of a series are 10 and 25, then co-efficient of variation is (in percent)
- A) 25
 - B) 50
 - C) 100
 - D) 250
50. There is an approximate linear relationship between the height of females and their age (from 5 to 18 years) described by : $\text{height} = 50.3 + 6.01(\text{age})$, where height is measured in cm and age in years. Which of the following is not correct ?
- A) The estimated slope is 6.01 which implies that children increase by about 6 cm for each year they grow older
 - B) The estimated height of a child who is 10 years old is about 110 cm
 - C) The estimated intercept is 50.3 cm which implies that children reach this height when they are $50.3/6.01 = 8.5$ years old
 - D) The average height of children when they are 5 years old is about 50% of the average height when they are 18 years old
51. A national achievement test is administered annually to undergraduate students entering post graduate program of study. The test has a mean score of 70 and a standard deviation of 15. If one of the candidate's z-score is 1.20, what was the candidate's raw score on the test?
- A) 18
 - B) 88
 - C) 78
 - D) 98

52. Independent random samples of 10 observations each are drawn from two normal populations. The parameters of these populations are: $\mu_1 = 280$, $\sigma_1 = 25$ and $\mu_2 = 270$ and $\sigma_2 = 30$. The difference between the two sample means has a distribution which is equal to
- A) N(10, 152.5) B) N(20, 152.5)
C) N(10, 180) D) N(10, 185)
53. If the correlation between the variables X and Y is 0.5, then the correlation between the variables $2x - 4$ and $3 - 2y$ is
- A) 1 B) 0.5
C) -0.5 D) 0
54. The following ages are those of 15 people interviewed at movie theatres in a shopping centre : 12, 14, 15, 19, 19, 21, 27, 31, 32, 46, 53, 56, 57, 58, 59. What is the sum of the median and the mode ?
- A) 50 B) 64
C) 52 D) 87
55. A distribution has zero skewness if it is
- A) symmetrical about its mode
B) symmetrical about its mean
C) symmetrical about its median
D) symmetrical about its variance
56. Higher saving rate in the Solow model leads to
- A) Temporary growth in per capita income
B) Permanent growth in per capita income
C) Both level and growth effect
D) Neither the level nor the growth effect



57. If prices and wages are flexible, the long run aggregate supply curve would be
- A) Upward sloping
 - B) Vertical
 - C) Horizontal
 - D) Downward sloping
58. If nominal wages are rigid in the short run the Phillips curve would be
- A) Downward sloping
 - B) Vertical
 - C) Upward sloping
 - D) Horizontal
59. According to the Permanent Income Hypothesis a temporary tax cut financed by debt issue should
- A) Increase current consumption
 - B) Increase current and future consumption
 - C) Decrease current consumption
 - D) Have no effect on consumption
60. Monetary neutrality implies that
- A) Monetary policy affects output
 - B) Monetary policy affects employment
 - C) Monetary policy only affects nominal variables
 - D) Monetary policy affects only real values
61. If the Marginal Propensity to Consume (MPC) is a number which lies between 0 and 1, then the consumption function would be
- A) Upward sloping but flatter than a 45 degree line
 - B) Vertical
 - C) Horizontal
 - D) Upward sloping and would be steeper than the 45 degree line

62. For any given monetary base an increase in the currency to deposit ratio would cause the money supply to
 - A) Decrease
 - B) Remain unchanged
 - C) Increase
 - D) Accelerate
63. Technological progress in the Solow model would have
 - A) Growth effect
 - B) Level effect
 - C) Both level and growth effect
 - D) Neither the level nor the growth effect
64. How does the Keynesian model explain involuntary unemployment ?
 - A) Labour market distortions
 - B) Bad luck
 - C) Monetary and fiscal policy mistakes
 - D) Nominal wage rigidity
65. If nominal wages are rigid real wages would be
 - A) Procyclical
 - B) Countercyclical
 - C) Rigid
 - D) Unaffected
66. If I sell my art collection to my neighbor
 - A) GDP would increase
 - B) GDP would decrease
 - C) Remain unchanged
 - D) None of the above
67. If India has a persistently higher inflation rate compared to the United States
 - A) The rupee would appreciate
 - B) The rupee would depreciate
 - C) The dollar would depreciate
 - D) None of the above



68. Productivity growth in the Classical model would shift the long run aggregate supply curve
 - A) To the right
 - B) To the left
 - C) Upward
 - D) Inward
69. In the Keynesian model what determines the price level ?
 - A) The Phillips curve
 - B) Monetary policy
 - C) Fiscal policy
 - D) Exchange rate policy
70. If the Reserve Bank (RBI) intervenes in the foreign exchange market and buys dollars the LM curve would
 - A) Shift left
 - B) Shift right
 - C) Cross the IS curve
 - D) Not shift
71. In the Keynesian model the slope of the aggregate demand curve depends on
 - A) Money multiplier
 - B) Animal spirit
 - C) Marginal propensity to consume
 - D) Interest rate
72. In the Solow model technological progress
 - A) Is explained by actions of economic agents
 - B) Is explained by government investment in research and development
 - C) Is explained by the quality of the workforce
 - D) Is assumed to be exogenous



73. If the goods market is in equilibrium in the Keynesian model then
- A) Money market would also be in equilibrium
 - B) Planned saving would equal planned investment
 - C) IS curve would slope upward
 - D) LM curve would be horizontal
74. If inventories (fruits) get spoiled then the Gross Domestic Product (GDP) would
- A) Decrease
 - B) Increase
 - C) Remain unchanged
 - D) Equal GNP
75. Given GDP at factor cost = 32509; Net factor earnings from abroad = – 249; Depreciation = 3792; Indirect taxes = 3162 then GDP at market prices is
- A) 32260
 - B) 32758
 - C) 36301
 - D) 35671
76. For a particular good, a 2 percent increase in price causes a 12 percent decrease in quantity demanded. Which of the following statements is most likely applicable to this good ?
- A) There are no close substitutes for this good
 - B) The good is a luxury
 - C) The market for the good is broadly defined
 - D) The relevant time horizon is short
77. If a surplus exists in a market, then we know that the actual price is
- A) above the equilibrium price and quantity supplied is greater than quantity demanded
 - B) above the equilibrium price and quantity demanded is greater than quantity supplied
 - C) below the equilibrium price and quantity demanded is greater than quantity supplied.
 - D) below the equilibrium price and quantity supplied is greater than quantity demanded



78. Farmer Krishnan in Tamil Nadu can grow 1500 kg of rice or 750 kg of wheat on one acre. Farmer Dilip in Punjab can grow 1900 kg of rice or 800 kg of wheat on one acre. Which of the following statements is true ?
- A) Krishnan has a comparative advantage in growing rice
 - B) Dilip has a comparative advantage in growing wheat
 - C) Krishnan has a comparative advantage in growing wheat
 - D) More information is needed to determine who has comparative advantage
79. Indifference curves that are convex to the origin reflect
- A) an increasing marginal rate of substitution
 - B) a decreasing marginal rate of substitution
 - C) a constant marginal rate of substitution
 - D) a marginal rate of substitution that first decreases, then increases
80. A tax on raw land causes
- A) A large deadweight loss
 - B) No deadweight loss
 - C) Landlords to bear no burden of the tax
 - D) Negative externalities for others
81. Suppose notebooks are produced by a constant-cost industry. Which of the following must cause Student's Notebooks to exit the industry in the long run ?
- A) Student's is notified of a rent increase, but her competitor's rents are unchanged
 - B) A fire destroys half of Student's inventory
 - C) A photographer wins a Rs.1 lakh lawsuit against Student's for having used her photos on its notebooks without her permission
 - D) The price of cardboard used in notebook production goes up



82. If you pay a price exactly equal to your willingness to pay, then
- A) Your consumer surplus is 0
 - B) Your willingness to pay is less than your consumer surplus
 - C) Your consumer surplus is negative
 - D) You place little value on the good
83. For the production function $Q = 20\sqrt{KL}$, the equation for a typical Isoquant is
- A) $K = 20L/Q^2$
 - B) $K = Q^2/20L$
 - C) $L = K/20Q$
 - D) $K = 20(QL)^2$
84. Consider a production function of the form $Q = K^2L^2$ with marginal products $MP_K = 2KL^2$ and $MP_L = 2K^2L$. What is the marginal rate of technical substitution of labor for capital at the point where $K = 5$ and $L = 5$?
- A) 5
 - B) 25
 - C) 50
 - D) 1
85. A firm cannot price discriminate if it
- A) has perfect information about consumer demand
 - B) operates in a competitive market
 - C) faces a downward sloping demand curve
 - D) is regulated by the government
86. The Anna Library has a large number of books that anyone with a library card may borrow. Anyone can obtain a card for free. Because the number of copies of each book is limited, not everyone can have the same book at the same time. What type of good will the library books be classified as in this case ?
- A) Private goods
 - B) Natural Monopoly
 - C) Common Resources
 - D) Public Goods



87. A distinguishing feature of an oligopolistic industry is the tension between
- A) Cooperation and self interest
 - B) Profit maximization and cost minimization
 - C) Producing a small amount of output and charging a price above marginal cost
 - D) Short run decisions and long run decisions
88. Private markets fail to account for externalities because
- A) Externalities do not occur in private markets
 - B) Sellers include costs associated with externalities in the price of their product
 - C) Decision makers in the market fail to include the costs of their behavior to third parties
 - D) The government cannot easily estimate the optimal quality of pollution
89. In a public goods context, it is difficult to measure impact on real income because
- A) Public goods are generally free to the public
 - B) They make up a small percentage of total GDP
 - C) It is hard to measure how people value the public good
 - D) Inflation decreases the value of the good
90. If the Japanese steel industry subsidizes the steel that it sells to United States, the
- A) United States must protect its domestic steel industry from this unfair competition
 - B) Harm done to the U.S. steel producers is less than the benefit that accrues to U.S. consumers of steel
 - C) Harm done to the U.S. steel producers from the unfair competition exceeds the gain to the U.S. consumers of the cheap Japanese steel
 - D) United States should subsidize the products it sells to Japan



91. In the Heckscher-Ohlin model, international trade is based mostly on a difference in
- A) Technology
 - B) Product differentiation
 - C) Economies of scale
 - D) Factor endowments
92. The characteristics of quotas and tariffs are described correctly by which of the following ?
- A) Tariffs assure a certain final price for imports, but not as surely as a quota does
 - B) Quotas assure a certain limited quantity of imports, but not as well as a tariff does
 - C) Quotas assure a certain final price for imports better than a tariff does
 - D) Tariffs do not assure a certain limited quantity of imports as a quota does
93. An economic transaction is recorded in the balance of payments as a debit if it leads to
- A) A payment to foreigners
 - B) The receipt of payments from foreigners
 - C) An increase in foreign exchange reserves
 - D) Neither an inflow or an outflow of value
94. Ricardo explained the law of comparative advantage on the basis of
- A) Opportunity costs
 - B) The law of increasing returns
 - C) Economies of scale
 - D) The labor theory of value
95. An explanation for how the price of water can be less than the price of diamonds, even though water is more valuable, is that
- A) Price is a poor guide to value
 - B) Markets for water and diamonds are not competitive
 - C) Diamond production requires more labour and value is based on labour
 - D) Price reflects marginal value, not total value



96. In India the state governments earn their maximum revenue through
- A) Land taxes
 - B) Customs duties
 - C) Commercial taxes
 - D) Excise duties on intoxicants
97. In pursuance of the recommendations of the Narasimhan Committee, the RBI has framed new guidelines
- A) to reduce the freedom given to banks to rationalise their existing branch network
 - B) to govern the entry of new private sector banks to make the banking sector more competitive
 - C) to set up more foreign exchange banks
 - D) to lend more easily for industrial development
98. If the fiscal deficit of Government of India is Rs.75,000 crores, re-lending to states is Rs. 25,000 crores and interest payments are Rs. 25,000 crores, what is the amount of the primary deficit ?
- A) Rs. 50,000 crores
 - B) Rs. 25,000 crores
 - C) Rs. 1,00,000 crores
 - D) Rs. 1,25,000 crores
99. In India, inflation is measured on the basis of
- A) Wholesale Price Index
 - B) Weighted average of urban and rural consumer price indices
 - C) Consumers Price Index for urban non-manual workers
 - D) National Income Deflation
100. In early 2017, India's ranking in the world for GDP based on PPP valuation is
- A) Third
 - B) Fifth
 - C) Seventh
 - D) Twelfth