

Centre for Development Studies
Thiruvananthapuram

MA Applied Economics
ADMISSION EXAMINATION 2012

Register Number:

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Question Booklet Series:

A

Read the instructions carefully before answering the questions

- This booklet contains **100 objective questions** with multiple choices in answers. All questions are compulsory and **allowed time is two hours**.
- Write your **Register Number** in the space provided on the top of this booklet.
- **Write your Register Number and Question Booklet Series code in the Answer Sheet in the space provided.**
- The question booklets are in four series (**A,B,C,D**). The series code is displayed on the top of this page as well as on the top right corner of every page.
- Answer the questions by writing the alphabet (**A,B,C,or D**), corresponding to your answer, on the **Answer Sheet** against the question number.
- Use a **ballpoint pen** (black or blue ink) to mark answers.
- Each correct answer carries **four** marks and for each wrong answer **one** mark will be **deducted**. Non-attempted questions carry **zero mark**.
- Return the **Answer Sheet** to the invigilator at the end of the examination.
- Please do not make any stray marks on the **Answer Sheet**.
- You can use **last two pages** of this booklet for doing **rough work**.

1. Which of the following is a stock variable?
 - A. External debt of India.
 - B. Your income.
 - C. Total export of India.
 - D. Capital expenditure of government of India.
2. A variable its value is determined within an economic model is called _____.
 - A. Exogenous variable.
 - B. Predetermined variable.
 - C. Endogenous variable.
 - D. Independent variable.
3. Suppose that exchange rate of rupee against US \$ depreciated by 10%. Which of the following statements can be true in this context?
 - A. It benefits Indian exporters.
 - B. It benefits Indian citizens working in the US.
 - C. It benefits importers in India.
 - D. Both A and B.
4. Real exchange rate = Nominal exchange rate \times ?
 - A. Inflation rate.
 - B. Ratio of price levels in two countries.
 - C. Trade deflator.
 - D. Interest rate.
5. Stagflation refers to:
 - A. A situation of zero output growth and rising prices.
 - B. A situation of falling prices and rising output.
 - C. A situation of falling prices and unemployment.
 - D. A situation of deep recession.
6. Value added of a particular firm equals to:
 - A. Its sales.
 - B. Its profits.
 - C. Its sales minus its cost of intermediate inputs.
 - D. Its profit minus tax.
7. The amount of income consumers have available to spend or save after paying taxes and receiving government transfer payments is called _____.
 - A. National Income.
 - B. Disposable personal income.
 - C. Personal Income.
 - D. None of the above.

8. GDP deflator is defined as:
- Nominal GDP \times Real GDP.
 - Growth rate of nominal GDP – Rate of inflation.
 - $\frac{\text{Nominal GDP}}{\text{Real GDP}}$
 - Growth rate of nominal GDP – Growth rate of real GDP.
9. The difference between GDP and NDP is:
- Net income from abroad.
 - Depreciation.
 - Indirect taxes.
 - Government transfers.

Figure 1 presents the growth rate of capital formation by households and public sector for five years. Read the figure carefully to answer question 10.

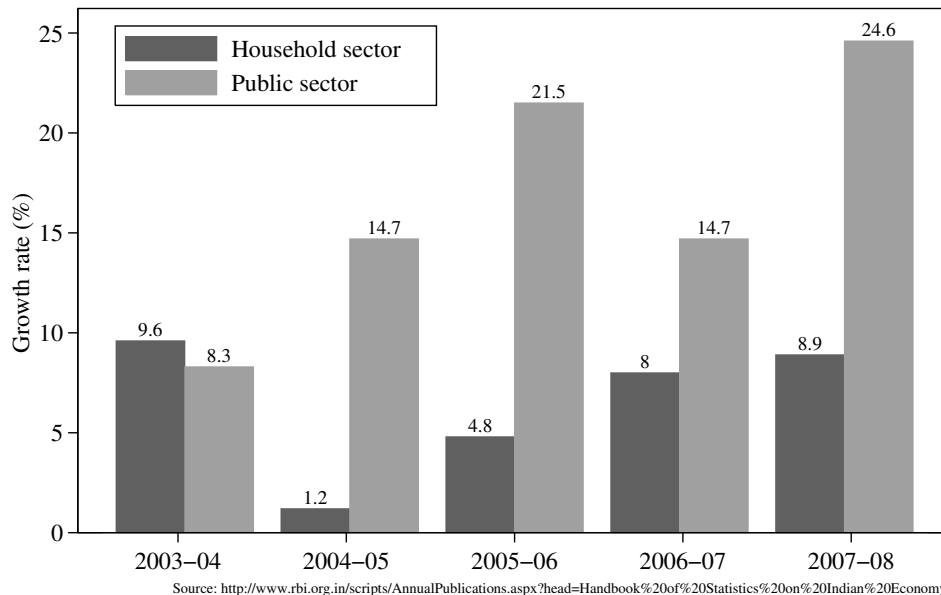


Figure 1: Growth of Capital Formation

10. Which of the following statement is true according to the Figure 1?
- In 2004-05, capital formation in the household sector was less than that in 2003-04.
 - Public sector capital formation were same in 2004-05 and 2006-07.
 - In 2007-08, capital formation in the public sector was higher than that in the household sector.
 - In 2006-07, capital formation in the public sector was higher than that in the previous year.

11. If the nominal interest rate is 8%, prices are rising at 5% a year and GDP is growing at 6% a year, then the real interest rate in the economy is:
- A. 2%
 - B. 5%
 - C. 3%
 - D. -3%
12. If consumption $C = 1000 + 0.8(Y - T)$, disposable income equals 1000 and $Y = 2000$, then the marginal propensity to consume (MPC) is:
- A. 0.80
 - B. 0.50
 - C. 900
 - D. 0.90
13. Money is:
- A. The stock of assets used for transactions.
 - B. The number of rupees in the hands of the public.
 - C. A store of value, a unit of account and a medium of exchange.
 - D. All of the above.
14. Suppose that coconut is the only product in the economy and one thousand coconuts are sold in a given year at Rs 3 per nut. The quantity of money in the economy is Rs.1000. Then the *transaction velocity of money* in the economy is:
- A. 5
 - B. 3
 - C. 6
 - D. 1.5
15. Almost all economists agree that the classical model is most relevant in discussions concerning:
- A. Economic recessions.
 - B. The short run.
 - C. The long run.
 - D. Economic recoveries.
16. If a computer costs \$500 in the US and Rs.20,000 in India, the exchange rate in rupees per dollar under purchasing power parity is:
- A. 40
 - B. 0.25
 - C. 4
 - D. 10

17. Let L denotes the size of the labour force in the economy, E the number of employees and U the number of unemployed workers. The unemployment rate in the economy equals to:
- A. $1 - \frac{U}{E}$
 - B. $1 - \frac{E}{L}$
 - C. $\frac{E}{L}$
 - D. $1 - \frac{U}{L}$
18. If real GDP, population and prices are increasing respectively at 8%, 2.5% and 5% per annum, then growth rate of real per capita GDP is:
- A. 10.5%
 - B. 8%
 - C. 5.5%
 - D. 6%
19. According to the Keynesian theory of consumption, the primary determinant of consumption is:
- A. Interest rate.
 - B. Wealth of the consumer.
 - C. Consumers' ability to borrow.
 - D. Consumers' income.
20. Firms find it profitable to add to their capital stock if the:
- A. Real costs of capital exceeds the marginal product of capital.
 - B. Marginal product of capital exceeds the real cost of capital.
 - C. Marginal product of capital exceeds the real interest.
 - D. Rental price of capital exceeds the marginal product of capital.
21. An event that decreases the marginal product of capital will:
- A. Shift the investment function left.
 - B. Shift the investment function right.
 - C. Raise the real cost of capital.
 - D. Raise the rate of depreciation.
22. If the demand curve is perfectly price elastic:
- A. Consumer surplus is equal to zero.
 - B. Consumer surplus is equal to producer surplus.
 - C. Consumer surplus is equal to total surplus.
 - D. Consumer surplus is greater than producer surplus.

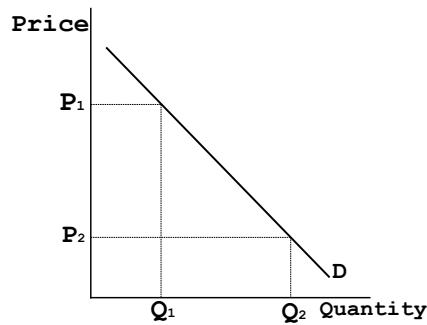


Figure 2: Linear Demand Curve

23. Absolute value of the price elasticity of demand in the demand curve given in Figure 2 is:
- Constant and equal to its slope.
 - Larger at P_1 than at P_2 .
 - Larger at P_2 than in P_1 .
 - One (unit elastic).
24. If total cost is increasing at decreasing rates, then the marginal costs is:
- increasing.
 - decreasing.
 - remain constant.
 - either increase or decrease.
25. Diminishing returns affects all of the following except:
- Marginal product.
 - Average total cost.
 - Average variable cost.
 - Average fixed cost.
26. The marginal revenue curve of a perfectly competitive firm is:
- Equal to its marginal costs curve.
 - Below its marginal costs curve.
 - Above its marginal costs curve.
 - Perfectly elastic at the market price.
27. The quantity demanded of an inferior good increases as its price falls because:
- Substitution effect and income effect move in the same direction.
 - Substitution effect dominates the income effect.
 - Income effect dominates the substitution effect.
 - None of the above.

28. When the State Transport Corporation increased the bus fare by 20%, the number of bus users decreased by 10%. What is the price elasticity of demand for bus service?
- A. -2.0
 - B. 0.50
 - C. -0.50
 - D. -1.0

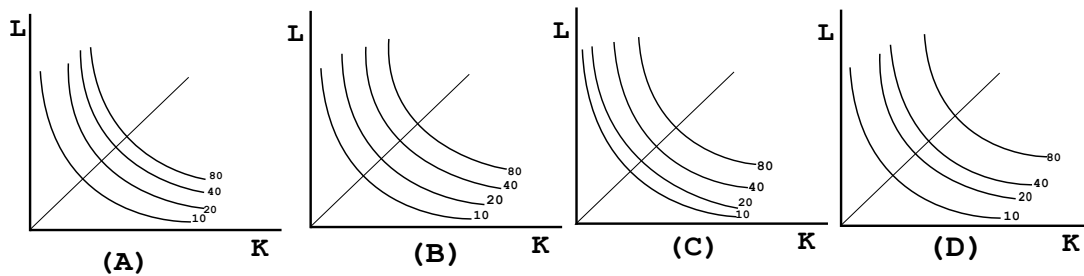


Figure 3: Isoquant

29. Figure 3 presents a set isoquants, where the numbers on the isoquants denote quantity of output. Which part of the figure presents isoquants of the production function $Q = AK^\alpha L^\beta$, where $\alpha + \beta = 1.5$?
- A. A.
 - B. B.
 - C. C.
 - D. D.
30. Higher the price of capital relative to the price of labour, the production technique in general be:
- A. Labour intensive.
 - B. Capital intensive.
 - C. More traditional.
 - D. Can't say anything.
31. Consider a paddy farmer's production decision, which of the following input does not enter into his *optimisation programme*?
- A. Labour.
 - B. Fertiliser.
 - C. Sunlight.
 - D. None of the above.

32. What is the elasticity of demand for the demand function $Q = 10 - 3P$ at price Rs.2?
- 1.0
 - 3.0
 - 0.75
 - 1.5
33. Price elasticity of demand for good X is -1.5. Suppose the firm selling good X increased its price by 15%, then the total revenue of the firm would:
- Increase by 15%.
 - Increase by less than 15%.
 - Decrease.
 - Remain constant.
34. Joseph's preferences satisfy transitivity property and he prefers tea over coffee and coffee over Coke. This implies that he prefers:
- Tea over Coke.
 - Coke over tea.
 - Coke over Pepsi.
 - Can't say anything.

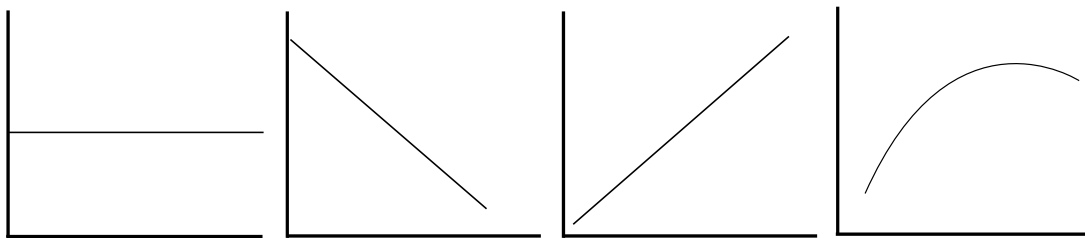


Figure 4: Marginal Product of Labour

35. Assume that the production function $Q = AK^\alpha L^{1-\alpha}$ has constant returns to scale and diminishing returns to factors. Which part of the Figure 4 depicts the marginal productivity of labour (MP_L) in the production function?
- A.
 - B.
 - C.
 - D.
36. Ram prefers good X to good Y and his preferences are ordinal. This implies that:
- He can say by how much he prefers X over Y.
 - He can only say that he prefers X over Y.
 - He can say the difference in utility between X and Y.
 - He cannot say anything about the utility of X and Y.

37. Marginal utility of pollution is:

- A. Positive.
- B. Negative.
- C. Zero.
- D. None of the above.

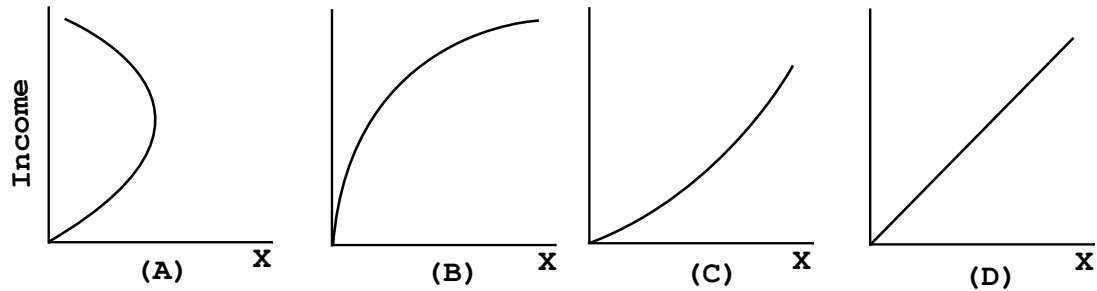


Figure 5: Engel Curve for good X

38. Which part of the Figure 5 represents the engel curve of an inferior good X?

- A. A.
- B. B.
- C. C.
- D. D.

39. Marginal utility of an inferior good is:

- A. Positive.
- B. Negative.
- C. Zero.
- D. Zero or positive.

40. Theory of revealed preference is used to:

- A. Derive optimal choice from given preferences and budget constraint.
- B. Derive underlying preferences from optimally chosen bundles under different budget constraints.
- C. Both A and B.
- D. Neither A nor B.

41. Short-run *shut down point* of a producer in perfectly competitive market is the:

- A. Lowest point of its average cost curve.
- B. Lowest point of its average variable cost curve.
- C. Lowest point of its marginal cost curve.
- D. None of the above.

42. In a perfectly competitive market, a firm's long-run supply curve is:
- The upward segment of its average cost curve.
 - The upward segment of its marginal cost curve.
 - The upward segment of its marginal cost curve which is above the lowest point of the average cost curve.
 - None of the above.
43. Which of the following are/is not true for a perfectly competitive market:
- Sufficient condition for equilibrium is $MR = MC$.
 - Product differentiation is not allowed.
 - Average revenue and marginal revenue curve is same.
 - None of the above.
44. A non-discriminating monopoly firm produces its product in two different plants. The equilibrium condition of the firm is (with notations carry their usual meaning):
- $MR = MC_1 = MC_2$
 - $MR_1 = MR_2 = MC$
 - $MR_1 = MC_1$ and $MR_2 = MC_2$, with $MR_1 \neq MR_2$
 - None of the above.

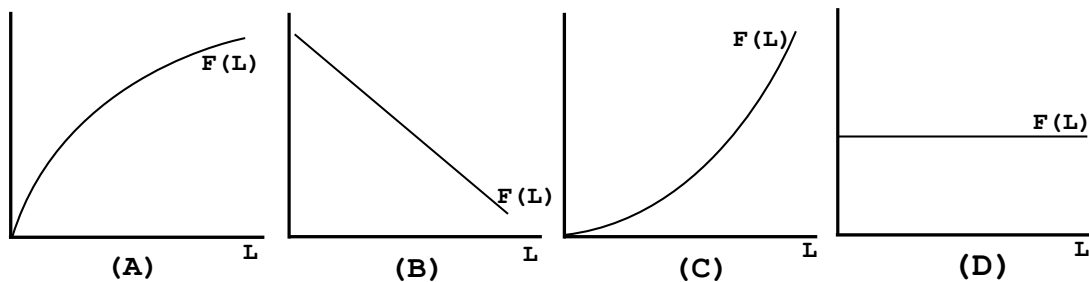


Figure 6: $Q = F(L)$

45. Suppose output Q is a function of labour alone, $Q = F(L)$. Which production function in Figure 6 illustrates the diminishing marginal product of labour?
- A.
 - B.
 - C.
 - D.
46. If you are measuring level of consumption of a *good* in one axis and that of a *bad* on the other axis, the indifference curve will be:
- Parallel to the good axis.
 - Parallel to the bad axis.
 - Of "inverted-U" shape.
 - Having positive slope.

47. A third-degree price discriminating monopolist will set:
- A. Higher price for the market where price elasticity of demand for its product is more.
 - B. Higher price for the market where price elasticity of demand for its product is less.
 - C. Prices irrespective of elasticity of demand.
 - D. Prices which do not require equality of marginal revenue and marginal cost.
48. If $\det A = 0$, then matrix A is _____.
- A. symmetric.
 - B. Non-singular.
 - C. Singular.
 - D. Polynomial.
49. $\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n$ is given by _____.
- A. e^x
 - B. e
 - C. e^n
 - D. e^∞
50. The second derivative of a function informs us about the _____ of its graph.
- A. slope.
 - B. value.
 - C. curvature.
 - D. height.
51. A function is strictly concave, if its second derivative, $f''(x)$ is _____.
- A. zero.
 - B. negative.
 - C. positive.
 - D. infinite.
52. Let A be the set of left-handed people, and let B be the set of people with blonde hair. Then what is $A \cap B$?
- A. Set of all people who are left-handed or blond-haired.
 - B. Set of all people that are left-handed but not blond-haired.
 - C. Set of all left-handed blond-haired people.
 - D. Set of all people that have blond hair but aren't left-handed.

53. Let E be the set of all human beings, and let F be the set of all living things over 1000 years old. What is $E \cap F$?
- A. Empty set, $\{\}$.
 - B. Finite set.
 - C. Infinite set.
 - D. $E \cup F$.
54. If the rows in a matrix A are linearly independent, the matrix A is _____.
- A. singular.
 - B. Non-singular.
 - C. Symmetric.
 - D. Idempotent.
55. When there is an absence of money illusion, the consumer's demand function is said to be homogeneous of degree _____.
- A. Zero.
 - B. One.
 - C. Two.
 - D. More than 2.
56. $16^{2.5}/16 = ?$
- A. 256
 - B. 64
 - C. 20
 - D. 16
57. If $x > y$ and $y > 0$, then _____.
- A. $x^{-1} < y^{-1}$
 - B. $x^{-1} > y^{-1}$
 - C. $x^{-1} = y^{-1}$
 - D. $x^{-1} < y^{-1} < 0$
58. A firm's manufacturing system requires two processes for each unit produced. Process A involves a fixed cost of Rs.650 plus Rs.15 for each unit produced and process B involves a fixed cost of Rs.220 plus Rs.45 for each unit. What is the composite total cost function?
- A. $TC = 870 + 60Q$
 - B. $TC = 665Q + 265Q$
 - C. $TC = 930Q$
 - D. None of the above.

59. A two-variable function in the form $K = f(L)$ for the isoquant $Q = 100$ corresponding to the production function $Q = 20K^{0.5}L^{0.5}$ is given by:
- $K = L/25$
 - $K = 25L$
 - $K = 25/L$
 - None of the above.
60. In a basic Keynesian macroeconomic model it is assumed that $Y = C + I$ where $I = 250$ and $C = 0.75Y$. What is the equilibrium level of Y ?
- 500
 - 750
 - 1000
 - 1500
61. With reference to the question 60, what increase in I would be needed to cause Y to increase to 1200?
- 50
 - 75
 - 100
 - 150

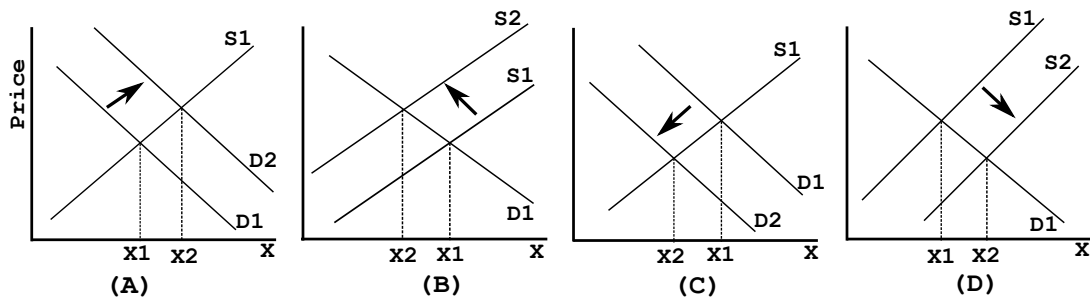


Figure 7: Equilibrium in the Market for X

62. Commodities X and Y are substitutes in consumption. Government increased the excise duty on Y. Which part of the Figure 7 depicts the consequent new equilibrium in the market for commodity X?
- A.
 - B.
 - C.
 - D.

63. In a row of students Helen stands in the 13^{th} position from both ends. How many students are there in the row?
- A. 13
 - B. 26
 - C. 25
 - D. 31
64. If A is less than B , C is less than D , and B is greater than E but less than D , which is the greatest?
- A. E .
 - B. C .
 - C. B .
 - D. D .
65. Saving of an employee is one-fifth of his salary. When he changed his savings to one-sixth of salary, there is a difference of Rs.300. What is his salary?
- A. Rs 6000
 - B. Rs 7000
 - C. Rs 9000
 - D. Rs 12000
66. Investments of three friends Caesar, Anthony and Cleopatra in a business are in the ratio of $1 : 2 : 3$. If total investment is Rs.36 lakhs, what is the investment of Cleopatra?
- A. 3
 - B. 6
 - C. 12
 - D. 18
67. Average of three numbers is 10. If sum of the first two numbers is 15, what is the third number?
- A. 15
 - B. 10
 - C. 20
 - D. 30
68. If $f(x) = x^2 + 2x - 1$, what is $f(5) - f(1)$?
- A. 28
 - B. 32
 - C. 38
 - D. 42

69. As per 2011 census, during the decade 2001-2011 Indian population increased by:
- A. 10.85%
 - B. 11.48%
 - C. 17.64%
 - D. 24.50%
70. According to 2011 census the literacy rate in India is:
- A. 58.30%
 - B. 62.85%
 - C. 86.34%
 - D. 74.04%
71. As per 2011 census, the state having highest literacy rate in India is:
- A. Kerala.
 - B. Mizoram.
 - C. Tamil Nadu.
 - D. Gujarat.
72. Among the following, which accounts for the highest share in revenue receipt of the government of India?
- A. Personal Income Tax.
 - B. Corporation Tax.
 - C. Excise duty.
 - D. Custom duty.
73. Among the following, which state has the highest per capita Net State Domestic Product (NSDP)?
- A. Haryana.
 - B. West Bengal.
 - C. Rajasthan.
 - D. Kerala.
74. Period of 11th five year plan is _____.
- A. 2008 to 2013.
 - B. 2007 to 2012.
 - C. 2006 to 2011.
 - D. 2005 to 2010.

75. In India, Finance Commission is related to _____.
- Sharing of tax revenue between the Centre and states.
 - A committee studying the problems in the financial sector.
 - A committee to study the problems in the stock market.
 - A Committee to study the finances of the central government.
76. Incremental Capital Output ratio (ICOR) refers to _____.
- The amount of capital required to produce the next unit of output.
 - The ratio of increased output to capital.
 - Change in the ratio of capital to output.
 - None of the above.

Figure 8 plots the ratio of India's GNP to her GDP. Both GNP and GDP are at factor costs and in 2004-05 prices. Read the figure carefully to answer question 77.

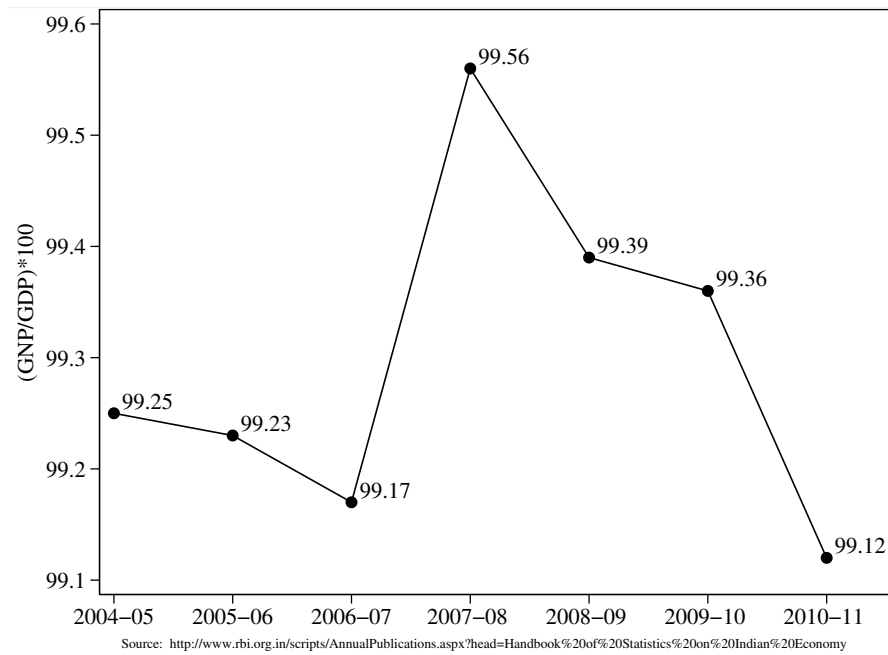


Figure 8: Ratio of GNP to GDP (in %)

77. Which of the following conclusion can be drawn from the Figure 8?
- During the period 2007-08 to 2010-11, net factor income from abroad is positive.
 - India has been receiving huge remittances from abroad.
 - Net factor income from abroad is negative.
 - In 2004-05, net factor income from abroad is positive and it was 0.75% of GDP.

78. Among the following which is the best indicator to track the performance of Indian economy since 1991?
- A. Growth rate of manufactured exports since 1991.
 - B. Growth rate of the industrial and tertiary sectors since 1991.
 - C. Reduction in the number of poor people.
 - D. Growth rate of real GDP since 1991.
79. Much of India's GDP growth is contributed by:
- A. Primary and secondary sectors.
 - B. Information and communications sector.
 - C. Manufacturing and mining sectors.
 - D. Tertiary sector including construction.
80. Which of the following statements with respect to aggregate savings and investment in India is true:
- A. Aggregate savings rate is less than aggregate investment rate.
 - B. Aggregate savings rate is more than aggregate investment rate.
 - C. Aggregate savings rate is equal to aggregate investment rate.
 - D. Aggregate savings rate has been falling continuously since 1991 with increases in consumption.
81. In India, official measurement of inflation uses:
- A. Price Index of all commodities.
 - B. Wholesale Price Index (WPI).
 - C. Consumer Price Index for Urban Manual Workers.
 - D. Implicit GDP Deflator.
82. Invisibles in the current account of India's Balance of Payments (BOP) include:
- A. Services and transfers.
 - B. Investment income.
 - C. Insurance.
 - D. All of the above.
83. Pick the odd one out of the following:
- A. Foreign Direct Investment and foreign portfolio investment.
 - B. External Commercial Borrowings.
 - C. Non Resident Deposits.
 - D. Foreign Remittances by Workers.

84. Among the following which is a better indicator of the extent of India's globalisation?
- A. Number of Indians travelling abroad.
 - B. Foreign Direct investment as a per cent of India's GDP.
 - C. Sum of India's exports of Merchandise and Services.
 - D. Sum of India's exports and imports expressed as a per cent of her GDP.
85. The item contributing prominently to reducing the current account deficit in India is:
- A. Foreign Direct Investments to India.
 - B. Foreign Portfolio Investments to India.
 - C. Exports of ready-made garments and leather manufactures.
 - D. Exports of computer software and private transfers.
86. Which of the following items accounts for the largest share in total subsidies in India?
- A. Petroleum.
 - B. Food.
 - C. Fertilizer.
 - D. Interest subsidy.
87. The market structure of mobile telecom services in India is almost a:
- A. Perfectly competitive industry.
 - B. Regulated monopoly.
 - C. Bilateral monopoly.
 - D. Oligopolistic industry.
88. Though industrial licensing was disbanded in 1991, its original purpose was to:
- A. Erect strong barriers to entry.
 - B. Create capacities in tune with plan targets.
 - C. Check the growth of monopolies.
 - D. Promote import substitution.
89. India's patent act was made TRIPS compliant on January 1, 2005. What does this mean?
- A. India was admitted to full membership of the WTO.
 - B. Restrictions on pharmaceutical prices were removed.
 - C. India has started recognising process patents in pharmaceutical products.
 - D. India has started recognizing product patents in pharmaceutical products, agrochemicals and food products.

90. Suppose a frequency distribution is skewed with a median of 75 and a mode of 80. Which of the following is a possible value for the mean of the of distribution?
- 86
 - 91
 - 64
 - 75
91. In general, which of the following statements is FALSE?
- The sample mean is more sensitive to extreme values than the median.
 - The sample range is more sensitive to extreme values than the standard deviation.
 - The sample standard deviation is a measure of spread around the sample mean.
 - The sample standard deviation is a measure of central tendency around the median.

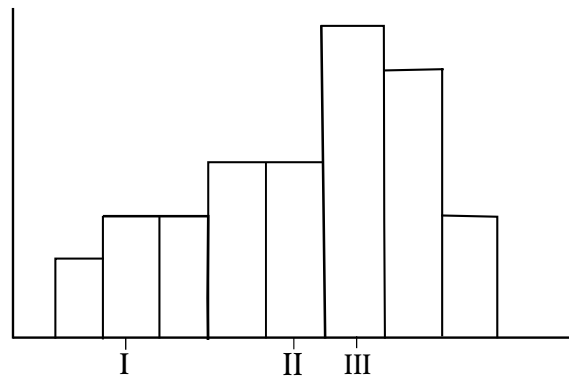


Figure 9: Histogram

92. For the histogram given in Figure 9, what is the proper ordering of the mean, median, and mode? Note that the graph is **NOT** numerically precise; only the relative positions are important.
- I = mean II = median III = mode
 - I = mode II = median III = mean
 - I = median II = mean III = mode
 - I = mode II = mean III = median
93. Suppose A is any event. Then $P(A) + P(A^c)$ equals
- 0
 - $P(A)$
 - $P(A^c)$
 - 1

Table 1: Relative Frequency of Accidents per day in a city

Accidents	0	1	2	3	4 or more
Relative Frequency	0.55	0.20	0.10	0.15	0

Read Table 1 carefully to answer question 94.

94. Which of the following statements are true on the basis of information provided in Table 1?
1. The mean and modal number of accidents are equal.
 2. The mean and median number of accidents are equal.
 3. The median and modal number of accidents are equal.
- A. 1 only.
 B. 2 only.
 C. 3 only.
 D. 1, 2, and 3.
95. There is one lock on a door and the key is among the six different ones you usually carry in your pocket. Someone places a seventh, useless key, in your pocket. What is the probability that the first key you try will open the door?
- A. $1/6$
 B. $1/2$
 C. $1/3$
 D. None of the above.
96. A sample of 99 distances has a mean of 24 feet and a median of 24.5 feet. Unfortunately, it has just been discovered that an observation which was erroneously recorded as "30" actually had a value of "35". If we make this correction to the data, then:
- A. The mean remains the same, but the median is increased.
 B. The mean and median remain the same.
 C. The median remains the same, but the mean is increased.
 D. The mean and median are both increased.
97. The events in an experiment are _____ if only one can occur at a time.
- A. mutually exclusive.
 B. non-mutually exclusive.
 C. mutually inclusive.
 D. independent.

Table 2: Statistics on Two Groups of Cattle

	Group A	Group B
Sample Size	45	30
Sample Mean	1000 lbs	800 lbs
Sample standard deviation	80 lbs	70 lbs

Read Table 2 carefully to answer question 98.

98. On the basis of Table 2, which of the following statement is correct?
- Group A has less variation than Group B because Group A's standard deviation is larger.
 - Group A has relatively less variation than Group B because Group A's coefficient of variation (CV) is smaller
 - Group A has lesser variation than Group B because the standard deviation per animal is smaller.
 - Group A has more variation than Group B because the sample size of A is larger.
99. You are allowed to choose four whole numbers from 1 to 10 (inclusive, without repeats). Which of the following is FALSE?
- The numbers 4, 5, 6, 7 have the smallest possible standard deviation.
 - The numbers 1, 2, 3, 4 have the smallest possible standard deviation.
 - The numbers 1, 5, 6, 10 have the largest possible standard deviation.
 - The numbers 1, 2, 9, 10 have the largest possible standard deviation.

Read table 3 carefully to answer question 100.

Table 3: Cumulative Relative Frequency Distribution

Less than or equal to	5	10	15	20
Cumulative Relative Frequency	0.23	0.34	0.41	1.00

100. If the distribution given in Table 3 is based on 800 observations, then the frequency in the second interval is:
- 34
 - 272
 - 80
 - 88

Place for rough work

Place for rough work