

Centre for Development Studies
Thiruvananthapuram

MA Applied Economics
ADMISSION EXAMINATION 2013

Register Number:

Question Booklet Series:

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**.
- Each correct answer carries **four marks** and for each wrong answer **one mark** will be **deducted**. Non-attempted questions carry **zero mark**.
- 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 in capital letters), corresponding to your answer, on the Answer Sheet against the question number. If you mistakenly mark a wrong choice, you can strike it out using “multiplicative sign” (×), and then write the correct choice in the remaining space.**
- Use a **ballpoint pen** (black or blue ink) to mark answers.
- Please do not make any stray marks on the **Answer Sheet**.
- Return the **Answer Sheet** to the invigilator at the end of the examination. Candidates can take the **Question Booklet** and **Hall Ticket** with them after the examination.
- **Last page** of this booklet can be used for doing **rough work**.

1. Which of the following is an example of *sunk cost*?
 - A. Monthly rent you pay for the office you hire
 - B. Electricity cost for lighting the office while you work
 - C. Cost incurred to purchase some furniture for your office
 - D. Cost incurred in advertising your product**

2. Which of the following statement is true?
 - A. Both marginal cost and average variable cost curves start from the same point on the vertical axis
 - B. Marginal cost curve cuts average variable cost curve at its lowest point
 - C. Average cost and average variable cost curves are parallel to each other
 - D. Both A and B**

3. Suppose Mahindra Automobiles Ltd. is the only producer of *Zeep* in India and also that the Indian Army is the only authorized user of it. Then the market for *Zeep* is:
 - A. A monopoly
 - B. A monopsony
 - C. An oligopoly
 - D. None of these**

4. If the demand function for the commodity X is $Q^X = 100P_x^{-1}$ and price of X decreased by 10%, then the share of X in the total expenditure of the consumer:
 - A. increases.
 - B. decreases.
 - C. remains constant.**
 - D. may increase or decrease.

5. When the state transport corporation increased its fares for long distance passengers by 10%, the demand for train travel increased by 15%. The cross price elasticity of demand for train travel with respect to bus fare is:
 - A. 1.5**
 - B. -1.5
 - C. 0.67
 - D. None of the above

6. Malu's preference over three goods, x, y, z is complete. This implies that
 - A. $x, y,$ and z can be compared to each other.**
 - B. $x \succ y \succ z$
 - C. $x \sim y \sim z$
 - D. None of the above

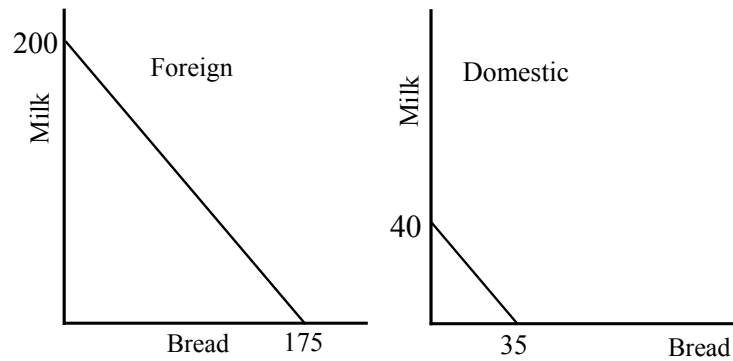


Figure 1: Production Possibility Frontier of Foreign and Domestic

7. Consider the production possibility frontier of two countries, Foreign and Domestic given in Figure 1, where Foreign is a big country and Domestic is small country. Trade between these two countries would:
- enhance welfare of people in both countries.
 - not have any effect on welfare in either nations**
 - improve welfare in the Foreign country because it produces both goods in larger quantities.
 - reduce welfare in Domestic country because it produces both goods in smaller quantities.
8. The preference relation $x \succsim y$ is convex. This implies that:
- $\alpha x + (1 - \alpha)y \succsim y, \forall \alpha \in (0, 1)$
 - $\alpha x + (1 - \alpha)y \precsim y, \forall \alpha \in (0, 1)$
 - $\alpha x + (1 - \alpha)y \sim y, \forall \alpha \in (0, 1)$
 - $\alpha x + (1 - \alpha)y \succ x, \forall \alpha \in (0, 1)$
9. Consider a set containing heights of four people $\{H_1, H_2, H_3, H_4\}$ and a relation defined on the set " \geq ". Is this relation transitive and complete?
- It is transitive and complete**
 - It is transitive but not complete
 - It is complete but not transitive
 - Neither transitive nor complete.
10. A positive monotonic transformation of a utility function would:
- change the preference ordering of the consumer
 - keep the preference ordering intact.**
 - reverse the preference order of the consumer.
 - Can't say anything.

11. Marginal Rate of Substitution (MRS) is invariant to:
- Functional form of the utility function
 - Monotonic transformation of the utility function**
 - Level of consumption of the good
 - None of the above.
12. Manu's preferences over x and y is concave; this implies that
- $x \succ \lambda x + (1 - \lambda)y, \forall \lambda \in (0, 1)$
 - $x \prec \lambda x + (1 - \lambda)y, \forall \lambda \in (0, 1)$
 - $y \prec \lambda x + (1 - \lambda)y, \forall \lambda \in (0, 1)$
 - $y \sim \lambda x + (1 - \lambda)y, \forall \lambda \in (0, 1)$
13. The demand function for banana is given by the equation $Q^D = 100 - 3P$, where P is the price in rupees and Q^D is the quantity in tonnes. The supply function is given by $Q^S = RP$ where R is the rainfall in inches during the growing season. If the rainfall is 2 inches in a season, the equilibrium price and quantity are:
- $P = 15, Q = 25$
 - $P = 20, Q = 40$**
 - $P = 20, Q = 30$
 - $P = 25, Q = 40$

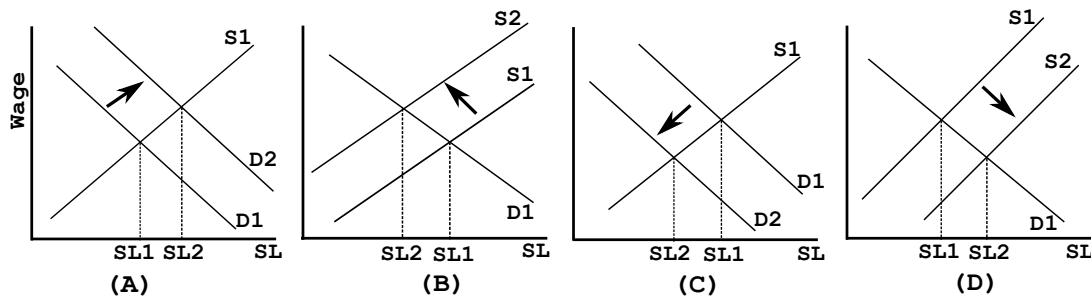


Figure 2: Equilibrium in the Labour Market

14. Software industry uses skilled labourers (SL). Because of the recession in export destination countries, export demand for software has come down drastically. Which part of the Figure 2 illustrates the new equilibrium in the domestic skilled labour market. (Where S and D respectively denotes the supply and demand curves of SL).
- A
 - B
 - C**
 - D

15. Consider a firm producing in a competitive market having the cost function $C(Q) = 4Q^2 + 1000$ and faces the price P . Its supply function is:
- A. $Q = \frac{P}{8}$
 - B. $Q = 8P^2$
 - C. $Q = 8P + 20$
 - D. None of the above
16. A firm in a perfectly competitive market in the short run making losses but continuing in production. This implies that
- A. Price \geq Short run average variable cost
 - B. Price $<$ Average Total Costs
 - C. Price $>$ Marginal Costs
 - D. **Both A and B.**
17. In a competitive market, in equilibrium, total surplus can be increased by:
- A. reallocating goods to those consumers who do not buy one.
 - B. reallocating production to those firms who did not produce anything.
 - C. increasing output.
 - D. **None of the above**
18. A new technology for producing computer chips invented by Intel Corporation is an example of:
- A. Excludable good
 - B. Non-excludable good
 - C. Rival good
 - D. **Non-rival good**
19. Which of the following is an example of *public good*:
- A. Government shelter home for poor,
 - B. **street light,**
 - C. Government health centre,
 - D. Public transport facility
20. Negative production externality is the result of:
- A. lack of proper regulation
 - B. **absence of property right on all aspects of production**
 - C. lack of awareness on the part of the public
 - D. lack of proper punishment for violators.

21. A lumpsum tax:
- does not destroy marginal incentives,
 - is better at promoting efficiency than value based tax,
 - is a regressive tax,
 - All of the above**
22. In the Stackelberg model of duopoly, if both the firms behave as followers, then we have
- A Cournot solution**
 - A Bertrand solution
 - A collusive equilibrium
 - Disequilibrium
23. Purchasing Power Parity (PPP) is used in the context of:
- exchange rate**
 - poverty line estimation
 - implementation of big projects
 - None of the above
24. Difference between GDP and GNP is:
- net income from abroad**
 - foreign remittances
 - value of export
 - depreciation

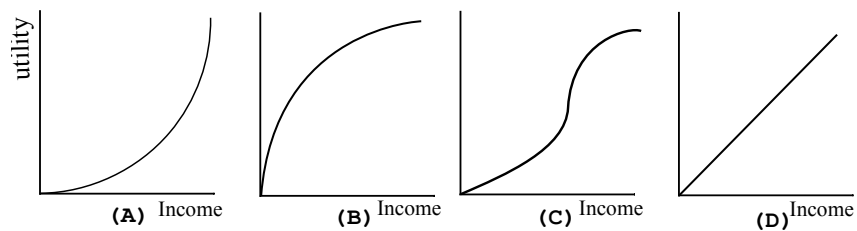


Figure 3: Utility function of A

25. Which part of Figure 3 represents income-utility function of risk averse individual?
- A
 - B**
 - C
 - D

26. Suppose annual growth rate of Nominal GDP, Real GDP and population are respectively 8%, 4%, and 2%. Then the growth rate of real per capita GDP, and GDP deflator are respectively _____ and _____.

- A. 4% and 2%
- B. 2 % and 4%**
- C. 6% and 2%
- D. -2% and 4%

27. Money multiplier determines:

- A. Total supply of money in the economy**
- B. High powered money
- C. Components of the money supply
- D. Employment and output in the economy

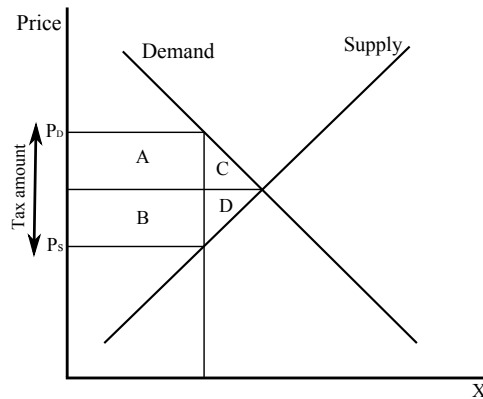


Figure 4: Dead-weight loss of a Tax

28. A tax t is imposed on per unit of good X . Which part of the Figure 4 represents the dead weight loss or excess burden of the tax?

- A. $A + C$
- B. $C + D$**
- C. $A + C - B - D$
- D. A

29. According to Friedman, the consumption of a household depends on

- A. Transitory income
- B. Permanent income**
- C. Both transitory and permanent incomes
- D. Relative income

30. If, marginal propensity to consume is 0.75, then the value of the balanced budget multiplier is
- A. 1
 - B. 2
 - C. 3
 - D. 4
31. In an economy the overall price level increases along with high persistent unemployment and slowing down of growth rate. We call this situation:
- A. Inflation
 - B. Reflation
 - C. Deflation
 - D. **Stagflation**

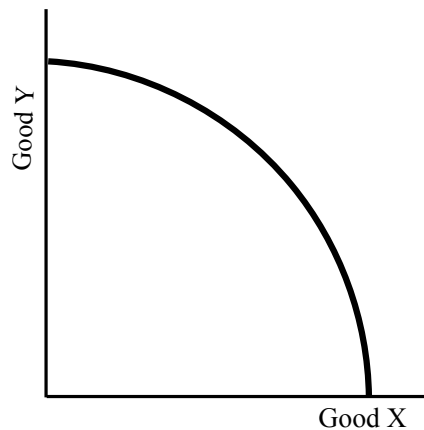


Figure 5: Production Possibility Frontier

32. The shape of the production possibility frontier given in Figure 5 is due to:
- A. scarcity of resources
 - B. **specialisation of resources**
 - C. decreasing opportunity cost
 - D. perfect substitutability among among factors/resources.
33. The Bretton–woods system finally collapsed in the year
- A. 1970
 - B. **1971**
 - C. 1972
 - D. 1973
34. Borrowings from foreigners are known as
- A. **Capital receipts**
 - B. Unrequited receipts
 - C. Current receipts
 - D. Bad debt

35. According to Keynesian theory, interest is paid for
- Foregoing liquidity**
 - Holding money as an asset
 - Holding money for transaction
 - Holding money to avoid future uncertainty
36. Real interest rate is equal to _____.
- commercial banks' interest rate on fixed deposits
 - interest rate of the Central Bank
 - nominal interest rate minus rate of inflation**
 - interest rate on government securities.

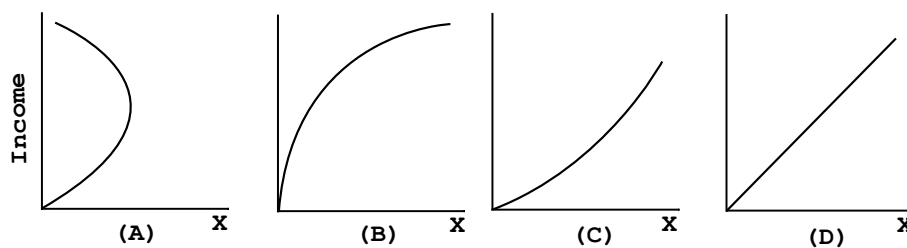


Figure 6: Engel Curve for Good X

37. Ram's preferences over goods x and y is homothetic. Which part of the Figure 6 represents his engel curve (income consumption curve) for good x ?
- A
 - B
 - C
 - D**
38. In the year 2012, firm A purchased intermediate inputs for Rs. 3000, and produced goods which sold at Rs.7000. The sale value also include excise duty of Rs. 500, depreciation of Rs. 600 and wage cost of Rs. 1000. The value added by the firm in the year is:
- 2900**
 - 4000
 - 1900
 - 6500
39. If labour productivity Y/L falls from one year to the next, then
- Output must have fallen.
 - Labour input must have risen.
 - The percentage change in L must have been less than the percentage change in Y .
 - The percentage change in L must have been greater than the percentage change in the Y .**

40. According to Euler's theorem, the sum of all factor payments will equal to total output if each factor of production is paid its marginal product and if:
- the production function has constant returns to scale.**
 - the production function displays diminishing marginal productivity
 - the amounts of capital and labour employed are equal
 - the elasticity of substitution of the production function equals to one
41. Money supply increases when:
- When government of India increases its purchases
 - When RBI buys treasury bonds from public.**
 - when a private citizen buys a bond issued by Tata Motors.
 - Infosys sells stock to the public and uses the proceeds to finance the construction of a new facility

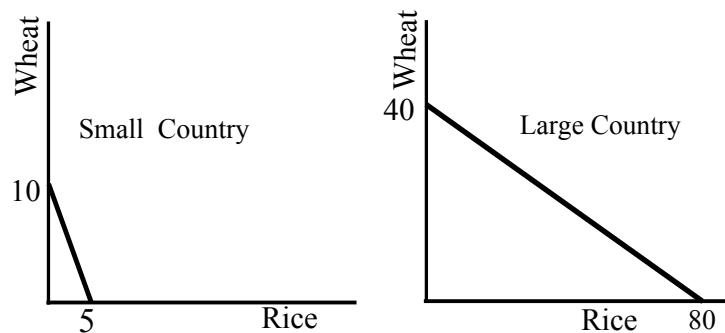


Figure 7: Production Possibility Frontier of two countries

42. Figure 7 presents the production possibility frontiers of Small Country and Large Country. On the basis of the figure, which of the following statement is true?
- Small country does not have comparative advantage in the production either rice or wheat.
 - Large country has comparative advantage in the production of both goods.
 - Large country has comparative advantage in the production of rice.**
 - Small country has comparative advantage in the production of rice.
43. All of the following are included in M_1 EXCEPT
- Currency
 - Demand Deposits
 - Saving Deposits**
 - Travellers cheque

44. If the nominal money supply rises by 5%, price level rises by 4% and output rises by 4%, then according to quantity equation income velocity rises by:
- A. 13%
 - B. 9%
 - C. 3%
 - D. 1%
45. During periods of inflation the cost of holding money equals:
- A. The nominal interest rate,
 - B. The *ex ante* real interest rate plus the expected rate of inflation
 - C. **Both A and B.**
 - D. The *ex post* real interest rate
46. If domestic investments exceeds domestic savings, one would observe:
- A. Negative net capital outflow
 - B. A government budget deficit
 - C. Trade deficit
 - D. **Both A and C**
47. According to Friedman the shape of the long-run Phillip's Curve is:
- A. Horizontal
 - B. **Vertical**
 - C. Upward sloping
 - D. Downward sloping
48. Suppose nominal exchange rate between domestic and foreign currency increased by 10%, domestic inflation rate is 3% and foreign inflation rate is 6%. The change in the real exchange rate is:
- A. 13%
 - B. 4%
 - C. **7%**
 - D. 3%
49. Investment tax credit increases investment because:
- A. Firm's after-tax revenue are increased over the entire life of investment project.
 - B. **The costs of capital to firm is directly reduced**
 - C. The rate of depreciation of the capital is decreased.
 - D. Demand for consumer goods is directly increased.

50. Which of the following will not result in an increase in output?
- A. An increase in autonomous spending
 - B. A decrease in autonomous taxes
 - C. An increase in autonomous taxes
 - D. An increase in lumpsum taxes**
51. The most important source of revenue of government of India is:
- A. Excise duty
 - B. Corporate income tax**
 - C. Proceeds from privatisation
 - D. Taxes on MNCs
52. India's overall research intensity, as measured by her gross expenditure on R&D as a per cent of GDP, is:
- A. greater than unity
 - B. less than unity**
 - C. 2 percent
 - D. almost 3 per cent
53. According to the National Manufacturing Policy announced in 2011, the share of manufacturing in India's GDP in the year 2022 is targeted to be:
- A. 20%
 - B. 25%**
 - C. 30%
 - D. 35%
54. The following period is generally referred to as the high growth period of India's economy:
- A. 1991-92 through 2012-13
 - B. 2001-02 through 2012-13
 - C. 2003-04 through 2007-08**
 - D. None of the above
55. The current account deficit of India has almost reached 5% of her GDP in 2012-13. What does the current account show:
- A. The difference between exports and imports of goods;
 - B. Trade deficit plus net private transfers
 - C. Sum of net services and trade balance
 - D. Sum of net invisibles and trade balance**

56. Two items which have contributed to the deficits in our balance of trade for the year 2012–13

- A. Imports of petroleum products and gold
- B. Imports of gold and silver
- C. Imports of precious and semi precious stones
- D. None of the above

57. Identify a narrow measure of globalisation

- A. Sum of export of goods and services as percentage of GDP.
- B. Total trade (import and export of goods and services) as % of GDP.**
- C. Sum of current and capital account expressed as a percentage of GDP
- D. Migration rate

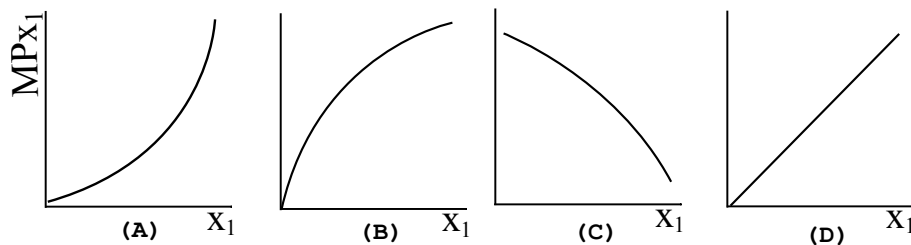


Figure 8: Marginal Product of x_1

58. Consider the production function $Q = 4x_1^{3/2}x_2^{1/2}$. Which part of the Figure 8 depicts the marginal productivity schedule of input x_1 in the production function?

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

59. The source country from where much of FDI that India receives is from:

- A. United Arab Emirates
- B. United States of America
- C. United Kingdom
- D. Mauritius**

60. Reverse repo rate indicates:

- A. the rate at which the RBI borrows money from commercial banks**
- B. the rate at which commercial banks borrow money from RBI
- C. that RBI is the lender of last resort
- D. None of the above

61. What is the dominant form in which privatization of public sector enterprises in India manifest itself
- A. **Divestment**
 - B. De regulation
 - C. Contracting out to private sector
 - D. Public-Private Partnerships
62. The largest remittance receiving country in the world is:
- A. Philippines
 - B. Mexico
 - C. China
 - D. **India**
63. Depreciation of the Indian Rupee against major foreign currencies has the potential of:
- A. Increasing the cost of imports to India
 - B. Cheapening the cost of exports from India
 - C. **Both A and B**
 - D. None of the above
64. What is the most important primary source of (conventional energy) production in India:
- A. Electricity (Hydro and Nuclear)
 - B. **Coal and Lignite**
 - C. Natural Gas
 - D. Solar and Wind

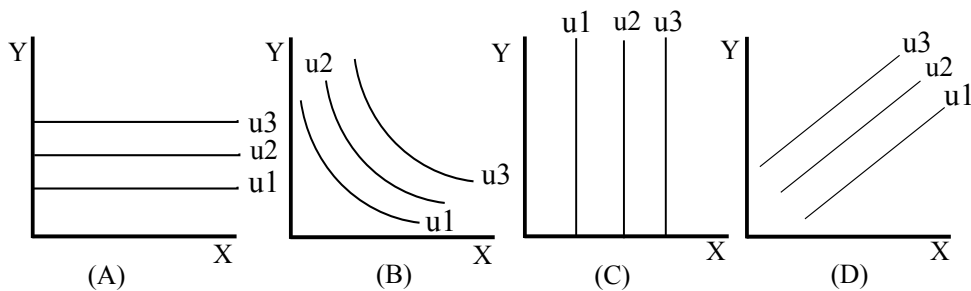


Figure 9: Indifference curves of a neutral and an ordinary good

65. A commodity bundle consists of two goods, X and Y, where X is a neutral good and Y is an ordinary good. Which part of the Figure 9 represents the indifference curves of this commodity bundle?
- A. A
 - B. B
 - C. C
 - D. D

66. India's patent regime became TRIPS compliant on:
- A. January 1, 2006
 - B. January 1, 1995
 - C. January 1, 2002
 - D. January 1, 2005**
67. What is the new institution that the BRICS countries has proposed:
- A. BRICS University
 - B. BRICS Patent Office
 - C. BRICS Trade Facilitation Centre
 - D. BRICS Bank**
68. What is the specific objective of the recently passed National Food Security Bill in India ?
- A. Provide food for everyone
 - B. Provide nutritious food for everyone
 - C. Eliminate hunger from rural areas
 - D. Give legal entitlement to two-thirds of the population to subsidised grains under the Targeted Public Distribution System**
69. What is the broad vision and aspiration of India's twelfth five year plan (2012-17)?
- A. Achieve and maintain a 9 per cent growth rate of GDP
 - B. Reduce the level of poverty in India by one half
 - C. Faster, sustainable and more inclusive growth**
 - D. More growth across regions and societal groups
70. Fiscal Responsibility and Budget Management (FRBM) Act targeted to:
- A. Eliminate revenue deficit
 - B. Reduce fiscal deficit
 - C. Increase tax revenue
 - D. Both A& B**
71. Difference between Primary deficit and Fiscal deficit is:
- A. Interest payments**
 - B. Borrowings and Other Liabilities
 - C. Net Indirect Tax
 - D. Depreciation
72. Tendulkar committee was set to estimate:
- A. Price Index
 - B. Poverty Line**
 - C. Growth Rate
 - D. National Income

73. Security Exchange Borad of India (SEBI) has been established to regulate:
- Capital Market
 - Foreign Exchange
 - Money Market
 - All the Above
74. If A, B, C are sets, then $A \sim (B \cup C) = ?$ (Note: $A \sim B$ denotes the complement of B relative to A)
- $(A \sim B) \cap (A \sim C)$
 - $(A \sim B) \cup (A \sim C)$
 - $(A \cap B) \cup (A \cap C)$
 - $(A \cap B) \cap (B \cup C)$
75. If $a, b \in \mathbb{R}$, then which of the following is always true:
- $|a + b| = |a| + |b|$
 - $|a + b| \leq |a| + |b|$
 - $|a + b| < |a| + |b|$
 - $|a + b| \geq |a| + |b|$
76. Let $a \in \mathbb{R}$. If x belongs to the neighbourhood $V_\epsilon(a)$ for every $\epsilon > 0$, then:
- $x > a$
 - $x \neq a$
 - $x < a$
 - $x = a$
77. $\lim_{x \rightarrow 0} \left[\frac{e^x - 1}{x} \right] = ?$
- 1
 - 0
 - Not defined
 - 1/2
78. Let A, B, C are sets, then $(A \cup B) \cap C = ?$
- $(A \cap C) \cup (B \cap C)$
 - $(A \cup C) \cap (B \cup C)$
 - $(A \cup C) \cap (B \cap C)$
 - None of the above
79. If there are no dancers who are not slim and no singers who are not dancers, then which statement is always true?
- There is not one slim person that isn't a dancer
 - All singers are slim
 - Anybody slim is also a singer
 - None of the above

80. According to the data supplied by the cabbage growers union report for 2007, 80% of cabbages collected were heavy (over 0.5 kg), 10% of cabbages were green, 60% were red and 50% were big (having a diameter of over 10 cm). Which of the following statement *must be false*?
- A. **All red cabbages weren't big**
 - B. 30% of red cabbages were big
 - C. There were no cabbages that were both green and big
 - D. Half of the cabbages were small
81. Rank of matrix X equals to:
- A. Dimension of its column space
 - B. Number of linearly independent columns in X
 - C. Number of linearly independent rows in X
 - D. **All of the above**
82. Set X is convex if
- A. $\lambda x + (1 - \lambda)y \in X \forall x, y \in X$ **and** $\forall \lambda \in [0, 1]$
 - B. $\lambda x + (1 - \lambda)y \in X \forall x, y \in X$ and $\forall \lambda \in \mathbb{R}_+$
 - C. $\lambda_1 x + \lambda_2 y \in X \forall x, y \in X$ s.t. $\lambda_1 + \lambda_2 = 1$
 - D. $\lambda x + (1 - \lambda)y \geq x, y \forall x, y \in X$ and $\forall \lambda \in (0, 1)$
83. $\frac{d \ln Y}{dt}$ is the _____ of Y .
- A. elasticity,
 - B. **growth rate,**
 - C. marginal Product,
 - D. total function
84. A function is strictly convex, if its second derivative, $f''(x)$, is _____.
- A. zero;
 - B. negative;
 - C. **positive;**
 - D. infinite
85. In matrix algebra, weighted sum of squares is obtained by $x^T A x$, where A is:
- A. symmetric matrix;
 - B. identity matrix;
 - C. **diagonal matrix;**
 - D. singular matrix.

86. In how many ways can the letters A, B, C, D be arranged in order (without repetition)?
- A. 4
 - B. 10
 - C. 24
 - D. 20

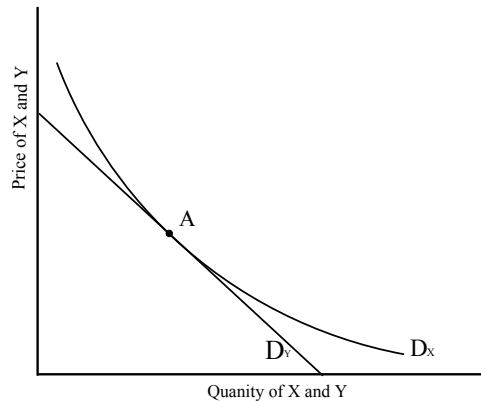


Figure 10: Demand for X and Y

87. Consider the demand curves for goods X and Y in Figure 10. At point A in the figure, the price elasticity of demand for X and Y is:
- A. **same**
 - B. elasticity of X is higher than that of Y
 - C. elasticity of Y is higher than that of X
 - D. elasticities are different, but direction cannot be predicted.
88. If $A = \{a, b, c, d, e\}$ and $B = \{p, q, r, s, t\}$, then $f : A \rightarrow B = \{(a, p), (b, q), (a, r), (d, s), (e, t)\}$ is:
- A. **only a relation;**
 - B. a relation as well as a function;
 - C. only a function
 - D. None of the above
89. The mean of a data set is equal to 10 and its standard deviation is equal to 1. If we add 5 to each data value, then the mean and standard deviation become:
- A. mean = 15 , standard deviation = 6
 - B. mean = 10 , standard deviation = 6
 - C. **mean = 15 , standard deviation = 1**
 - D. mean = 10 , standard deviation = 1

90. Let X and Y be two independent random variables. Then variance of $(X + Y)$, denoted as $Var(X + Y)$, is:
- $Var(X) + Var(Y)$
 - $Var(X) + Var(Y) - 2Cov(X, Y)$
 - $Var(X) + Var(Y) + 2Cov(X, Y)$
 - $Var(X) - Var(Y)$
91. If $z_i, i = 1, \dots, n$ are independent $N[0, 1]$ variables, which of the following is true:
- $\sum_{i=1}^n z_i^2 \sim \chi^2[n]$
 - $\sum_{i=1}^n z_i^2 \sim t[n]$
 - $\sum_{i=1}^n z_i^2 \sim F[n, 1]$
 - $\sum_{i=1}^n z_i^2 \sim N[0, n]$
92. In a sample of 1000 students, the correlation coefficient between time spend on studying (*Time*) and the marks obtained in the examination (*Marks*) is 0.82. This indicates:
- The effect of study time on marks
 - The causal effect of study time on marks
 - More study time leads to higher marks
 - The linear relationship between study time and marks.**
93. Let A and B are mutually exclusive events. Then the probability that A or B occurs is:
- $P(A) + P(B)$
 - $P(A) + P(B) - P(A \cap B)$
 - $P(A) + P(B) + P(A \cap B)$
 - $P(A) + P(B) - P(A) \times P(B)$
94. Let A and B are two independent events. The probability that *both* events A and B will occur is:
- $P(A) + P(B|A)$
 - $P(A) \times P(B)$**
 - $P(A) + P(B)$
 - $P(A) \times P(A|B)$
95. If one operation can be performed in m ways, and (when it has been performed in any way) a second operation can then be performed in n ways, there will be _____ ways of performing these two operations.
- $m + n$
 - mn**
 - $m - n$
 - m^n

96. Let c is a constant and X is a random variable with variance $V(X) = \sigma^2$. Then $V(X + c) = ?$
- σ^2
 - $\sigma^2 + c$
 - $\sigma^2 + c^2$
 - $c^2\sigma^2$
97. If $\hat{\theta}$ is an unbiased estimator of the parameter θ . Then:
- $E(\hat{\theta}) = \theta$
 - $\lim_{n \rightarrow \infty} P(|\hat{\theta} - \theta| < \epsilon) = 1$
 - $E(\hat{\theta}) = 1$
 - $E(\hat{\theta}) - \hat{\theta} = 0$
98. Significance level of a hypothesis test indicates:
- Probability of rejecting H_0 when it is true**
 - Probability of rejecting H_1 when it is true
 - Probability of type-II error
 - None of the above
99. In measuring the centre of the data from a skewed distribution, the median would be preferred over the mean for most purposes because:
- the median is the most frequent number while the mean is most likely
 - the mean may be too heavily influenced by the larger observations and this gives too high an indication of the centre.**
 - the median is less than the mean and smaller numbers are always appropriate for the centre
 - the median measures the arithmetic average of the data excluding outliers
100. If the distribution given in Table 1 is based on 800 observations, then the frequency in the second interval is:
- 34
 - 272
 - 80
 - 88**

Table 1: Cumulative Relative Frequency Distribution

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

Place for rough work