

1. In a closed economy, the balanced budget multiplier is
- (a) equal to 1
 - (b) less than 1
 - (c) more than 1
 - (d) dependent on the marginal propensity to consume in the economy
2. Stagflation describes a situation of
- (a) rising prices and rising output
 - (b) rising prices and falling or stagnant output
 - (c) falling or stagnant prices and rising output
 - (d) falling or stagnant prices and falling or stagnant output
3. If Canada has a comparative advantage in the production of wheat compared to the United States, it means that
- (a) the opportunity cost of producing wheat is higher in Canada than in the US
 - (b) the opportunity cost of producing wheat is lower in Canada than in the US
 - (c) with free trade, Canada will export all of its wheat
 - (d) with free trade, the US will not produce any wheat
4. Infant industry protection is
- (a) the policy of ensuring that children are not adversely affected by industrial pollution
 - (b) the policy of protecting a new domestic industry from lower cost imports
 - (c) the policy of providing bank credit to industries run by weaker off sections
 - (d) the policy of subsidizing imports in newly industrializing countries

5. For the countries in the European Union that share a common currency, the euro,

- (a) it is impossible to have different real exchange rates from one another
- (b) it is possible to have real exchange rates that are different from one another
- (c) the nominal and real exchange rates will always vary according to fiscal policy
- (d) the nominal and real exchange rates will always vary according to capital flows

6. The current account balance in an open economy

- (a) always includes the balance on investment income
- (b) never includes the balance on investment income
- (c) includes the balance on investment income and flows of investment
- (d) includes flows of investment but not the balance on investment income

7. A streetlight is considered as a good example of a public good

- (a) because it is provided in public spaces
- (b) because its consumption is non-rival and non-excludable
- (c) because its consumption is rival but non-excludable
- (d) because its consumption is non-rival but excludable

8. The bottom 20 percent of the world's population are estimated to receive around this much of global income

- (a) less than 1 percent
- (b) around 5 percent
- (c) around 10 percent
- (d) around 15 percent

9. If an economy is a price taker in world markets for both exports and imports, exchange rate devaluation

- (a) will have no effect on the balance of trade
- (b) will cause the balance of trade to improve
- (c) will cause the balance of trade to deteriorate
- (d) will turn a trade deficit into a balance

- ★ 10. The 'Gold Standard' refers to an international currency regime under which
- (a) only gold was used in international transactions
 - (b) only gold was used as money in domestic transactions
 - (c) countries officially linked their money supply to a specific value of gold
 - (d) countries officially linked the value of their money to a specific weight of gold

The next six questions 11-16 are based on the following table which gives the variable cost of producing the different levels of output of a commodity that a competitive firm might produce:

Output	Variable Cost of Production	MC	TC
0	0	0	15
1	25	25	40
2	42	17	39
3	54	12	27
4	64	10	25
5	75	11	26
6	93	18	33
7	112	19	34
8	140	28	43
9	180	40	55
10	230	50	65

The sunk cost of production in the short run is 15.

11. If the price of the commodity is 20, then the profit-maximizing level of output is
- (a) 6
 - ✓ (b) 7
 - (c) 8
 - (d) 9

12. If the price of the commodity is 19, then the profit-maximizing level of output is
- (a) 6
 - (b) 7
 - (c) 8
 - (d) 9
13. Let $\pi(20)$ denote the profit of the firm when the price of the output is 20 and let $\pi(19)$ denote the profit of the firm when the price of the output is 19. Which of the following is correct?
- (a) $\pi(20) = \pi(19) = 6$
 - (b) $\pi(20) < \pi(19)$
 - (c) $\pi(20) > \pi(19)$
 - (d) $\pi(20) = \pi(19) = 23$
14. If the price of the commodity is 14, then the profit-maximizing level of output is
- (a) 4
 - (b) 5
 - (c) 0
 - (d) None of the above
15. If the price of the commodity is 17, then the profit-maximizing level of output is
- (a) 1
 - (b) 2
 - (c) 3
 - (d) 5

16. If the price of the commodity is 17, then at the profit-maximizing level of output the firm

- (a) incurs a loss of 5
- (b) incurs a loss of 15
- (c) makes a profit of 7
- (d) None of the above

17. If good x and good y are perfect substitutes, then the indifference curves will be

- (a) strictly convex to the origin
- (b) strictly concave to the origin
- (c) straight lines
- (d) L-shaped

18. A monopolist faces the following demand function $D(P)$:

$$D(P) = 10 \text{ for } P \text{ in the interval } [0, 10]$$

$$= 20 - P \text{ for } P \text{ in the interval } (10, 20)$$

$$= 0 \text{ for } P \text{ in the interval } [20, \infty)$$

$$TVC = 0$$

$$TFC = 50$$

$$MC = 0$$

Now suppose that the monopolist has zero-variable cost of production. However, if it produces any positive amount, it must incur a fixed cost of Rs 50. What is the optimal monopoly price?

- (a) 15
- (b) 10
- (c) 5
- (d) There is no monopoly equilibrium

$$P = 20 - Q$$

$$PQ = 20Q - Q^2$$

$$MR = 20 - 2Q = 0$$

$$Q = \frac{20}{2}$$

$$Q = 10$$

$$P = 20 - 10 = 10$$

The next two questions 19 and 20 are based on the following:

Suppose a consumer wants to consume two commodities both of which are available only in discrete units. Let the prices of the goods be Rs 4 and Rs 3 respectively. The consumer's income is Rs 10.

19. The consumer's budget set is

- (a) $\{(x_1, x_2) \mid 4x_1 + 3x_2 \leq 10 \text{ and } x_1, x_2 \geq 0\}$
- (b) $\{(0, 0), (0, 1), (0, 2), (0, 3), (1, 0), (1, 1), (1, 2), (2, 0)\}$
- (c) $\{(0, 1), (0, 2), (0, 3), (1, 0), (1, 1), (1, 2), (2, 0)\}$
- (d) $\{(1, 2)\}$

20. Suppose the price of both commodities fall by 10 paise and money income increases by 10 paise. If the preference of the consumer over the two goods have not changed, then

- (a) at the optimum, the consumer would consume more of both commodities
- (b) at the optimum, the consumer would consume more of commodity 1 and less of commodity 2
- (c) at the optimum, the consumer would consume less of commodity 1 and more of commodity 2
- (d) the consumer's optimal bundle does not change.

21. Satish is very conscious about the food he eats. He only eats *rotis* and *dal*; a cup of *dal* costs Rs 2 while each *roti* costs Re 1 and Satish decides to spend only Rs 13 per day on food. Also he decides to consume exactly 5500 calories a day; he has been told that each *roti* has 1000 calories while each cup of *dal* has 500 calories. He spends his entire money allocated on foods. Then

- (a) he consumes 3 *rotis* and 5 cups of *dal* per day
- (b) he consumes no more than 3 *rotis* per day
- (c) he consumes no more than 5 cups of *dal* per day
- (d) he consumes 5 *rotis* and 4 cups of *dal* per day

22. A monopolist has a demand curve with constant price elasticity with absolute value 4. The monopolist charges a price of 60 per unit of output. What is its marginal cost at this level of output?

- (a) 23.5
- (b) 136
- (c) 45
- (d) 54

23. In a two-good world, a consumer's utility function is given by the following :

$U(x, y) = \max\{x, y\}$, where x and y are the quantities of the first and second good respectively. The price of both goods is 1 unit and the consumer's income is Rs 100. His optimal consumption bundle is

- (a) either (i) zero unit of x and 50 units of y or (ii) 50 units of x and zero unit of y
- (b) 50 units of x and 50 units of y
- (c) 25 units of x and 25 units of y
- (d) None of the above

24. A firm has a production function $q = A \cdot K^{0.5} L^{1.8}$, where A is a positive constant. Such a production function exhibits

- (a) decreasing returns to scale and diminishing marginal product for factor K
- (b) increasing returns to scale and diminishing marginal product for factor K
- (c) decreasing returns to scale and increasing marginal product for factor K
- (d) constant returns to scale with increasing marginal product for factor L

25. The short-run supply curve for a competitive firm is given by

- (a) the marginal cost curve of the firm
- (b) the marginal cost curve above the average cost curve
- (c) the marginal cost curve above the average variable cost curve
- (d) the upward sloping part of the marginal cost curve

26. If X_1, X_2, \dots, X_n are non-negative real numbers, then their



- (a) Arithmetic Mean \leq Geometric Mean
- (b) Geometric Mean \leq Arithmetic Mean
- (c) Arithmetic Mean = 0.5 (Geometric Mean)
- (d) There is no fixed relationship between Arithmetic Mean and Geometric Mean

27. If $(x/b) > (b/c)$, then

- (a) $xc > b^2$
- (b) $xc < b^2$
- (c) $xc = b^2$
- (d) Cannot say anything about relation between x , b and c

28. Let $f(x) = (\log(x))/x$, where $0 < x < 1$. Then for all x such that $0 < x < 1$

- (a) $f'(x) < 0$
- (b) $f'(x) > 0$
- (c) $f'(x) > 0$, if $0 < x < 0.75$ and $f'(x) < 0$, if $0.75 \leq x < 1$
- (d) $f'(x) > 0$, if $0 < x < 0.5$ and $f'(x) < 0$, if $0.5 \leq x < 1$

29. Given two numbers $x = (3\sqrt{7} + 4\sqrt{7})^2$ and $y = 343$, which of the following must be true?

- (a) $x > y$
- (b) $y > x$
- (c) $x = y$
- (d) $x = y/2$

30. Beena's average score after 8 class tests is 84. In her first 7 class tests, Beena's average score was 85. In her last class test, Beena has scored

- (a) 82
- (b) 87
- (c) 77
- (d) None of the above

31. The function $f(x) = \log_{10} x$ is continuous over the interval

- (a) $(-a, a)$, where $a > 0$
- (b) $(-\infty, +\infty)$
- (c) $[-a, a]$, where $a > 0$
- (d) $(0, 1)$

32. If $a \cdot b = M$, M is different from 0 and $(a+b) = 4$, then



- (a) there are always real values for a, b
- (b) whenever $4 \geq M > 0$ there are real values for a, b
- (c) whenever $0 > M$ there are positive values for both a, b
- (d) whenever $0 > M$ there are negative values for both a, b

33. Let X_1, X_2, \dots, X_{20} and Y_1, Y_2, \dots, Y_n be two collections of sets. Suppose every X_i contains 5 elements and every Y_j contains 2 elements and $\bigcup_{i=1}^{20} X_i = S = \bigcup_{j=1}^n Y_j$. If each element of S belongs to exactly 10 of the X_i s and to exactly 4 of the Y_j s, then n is

- (a) 10
- (b) 20
- (c) 100
- (d) 50

34. Suppose interest is compounded half-yearly at the rate of 10% per annum. If the present value of an asset which returns a fixed sum of Rs X after one year and nothing thereafter is Rs 50,000, then X is equal to

- (a) Rs 54,875
 (b) Rs 55,000
 (c) Rs 55,125
 (d) Rs 55,250

$$50000 = \frac{X}{\left(1 + \frac{10}{100 \cdot 2}\right)^2}$$

$$X = 55,125$$

35. If the elasticity of $f(x)$ with respect to x is 0.5 ($f(x) > 0$ and $x > 0$), then the elasticity of $\frac{f(x)}{x}$ with respect to x is

- (a) -0.5
 (b) 0
 (c) 0.5
 (d) 1

$$E_{f(x), x} = \frac{x}{f(x)} \times f'(x) = 0.5$$

$$\frac{\frac{x}{f(x)}}{x} \times \frac{x}{f(x)} \times f'(x) = \frac{x}{f(x)} \times \frac{f'(x)}{x} = 0.5 - 1 = -0.5$$

$$\frac{f'(x)}{x} \times x - \frac{f(x)}{f(x)}$$

$$0.5 - 1 = -0.5$$

36. In an examination, there are three multiple-choice questions and each question has 4 choices. Number of ways in which a student can fail to get all answers correct is

- (a) 12
 (b) 27
 (c) 63
 (d) 72

37. A function is selected at random from all the functions of the set $A = \{1, 2, 3, \dots, n\}$ into itself. The probability that the function selected is one-to-one is

- (a) $\frac{1}{n^n}$
 (b) $\frac{2}{(n-1)!}$
 (c) $\frac{1}{n!}$
 (d) $\frac{(n-1)!}{n^{n-1}}$

38. A fair die has given the number 6 on five consecutive throws. What is the probability that the next throw will also give the number 6?

- (a) $1/30$
- (b) $1/6$
- (c) $5/6$
- (d) None of the above

39. The number $0.999999\dots$ is

- (a) exactly equal to 1
- (b) slightly less than 1
- (c) slightly more than 1
- (d) between 0.99 and 0.999

40. Let $S = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots$

Then

- (a) S is equal to 4
- (b) S is equal to 6
- (c) S is equal to 8:5
- (d) the sum S does not converge to any finite value

41. Which of the following is a function?

- (a) A rule that assigns the circumference of a rectangle to its area
- (b) A rule that assigns to each number its square root
- (c) A rule that assigns to each person in a classroom his or her height
- (d) A rule that assigns the salary of a person to his or her years of education

The next four questions 42-45 are based on the following :

Consider a country in which there are four different types of people Red, Blue, Green and Yellow. All Reds earn the same income. The same is true about the Blues, Greens and Yellows. However the Red income, the Blue income, the Green income and Yellow income can be different from each other. A distribution of income of the country (D_i) specifies the Red income, Blue income, Green income and Yellow income and also the number of Reds, Blues, Greens and Yellows. The following table gives the possible income distributions for the country :

	Income				Number of Individuals			
	Red	Blue	Green	Yellow	Red	Blue	Green	Yellow
D_1	1	2	3	4	1	1	1	1
D_2	3	4	1	2	1	1	1	1
D_3	5	10	15	20	1	1	1	1
D_4	0.8	1.6	2.4	5.2	1	1	1	1
D_5	2.5	2.5	2.5	2.5	1	1	1	1
D_6	1	2	3	4	5	5	5	5

42. Let G_i denote the Gini coefficient for the income distribution i . Which of the following is true?

(a) $G_5 < G_1 = G_2 = G_3 = G_6 = G_4$

(b) $G_5 < G_1 = G_2 = G_3 = G_6 < G_4$

(c) $G_1 > G_2 > G_3 > G_4 > G_5 > G_6$

(d) $G_1 < G_2 < G_3 < G_4 < G_5 < G_6$

43. Let σ_i denote the standard deviation for the income distribution i . Which of the following is true?

(a) $\sigma_5 < \sigma_1 = \sigma_2 = \sigma_6 < \sigma_4 < \sigma_3$

(b) $\sigma_5 < \sigma_1 = \sigma_2 = \sigma_6 < \sigma_3 < \sigma_4$

(c) $\sigma_5 < \sigma_1 = \sigma_2 < \sigma_6 < \sigma_4 < \sigma_3$

(d) $\sigma_5 < \sigma_1 = \sigma_6 < \sigma_2 < \sigma_4 < \sigma_3$

44. Let μ_i denote the median for the income distribution i . Which of the following is true?
- $\mu_1 < \mu_2 = \mu_3 < \mu_4 < \mu_5$
 - $\mu_1 < \mu_2 = \mu_3 = \mu_4 < \mu_5$
 - The mean is equal to the median for each of the given distributions.
 - The mean is different from the median for each of the given distributions.
45. Consider the five income distributions D_1, D_2, D_3, D_4, D_5 . Which of the following is true?
- There is no Pareto-optimal distribution.
 - All distributions are Pareto-optimal.
 - D_3 is the only Pareto-optimal distribution.
 - D_1 and D_3 are the only Pareto-optimal distributions.

The next three questions 46–48 are based on the following :

Ms. A wishes to renovate her cottage. She hires the services of a plumber, a carpenter, a painter, an electrician and an interior decorator. The renovation is to be completed in a period of one working week, i.e., Monday to Friday. Every worker will be taking one complete day to do his job. Ms. A will allow just one person to work per day.

The painter can do his work only after the plumber and the carpenter have completed their jobs. The interior decorator has to complete his job before that of the electrician. The carpenter cannot work on Monday or Tuesday.

46. In case the painter works on Thursday, which among the following alternatives is possible?
- The electrician works on Tuesday
 - The electrician works on Friday
 - The interior decorator does his work after the painter
 - The plumber and the painter work on consecutive days
47. In case the painter works on Friday, which among the following statements must be untrue?
- The carpenter may work on Wednesday
 - The carpenter and the electrician may work on consecutive days
 - In case the carpenter works on Thursday, the electrician has to work on the previous day, i.e., Wednesday
 - The plumber may work before the electrician does

48. Which arrangement among the following is possible?
- (a) The painter will work on Wednesday and the plumber on Thursday
 - (b) The carpenter will work on Tuesday and the painter on Friday
 - (c) The painter will work on Monday and the carpenter on Thursday
 - (d) The carpenter will work on Wednesday and the plumber on Thursday
49. There are two egg delivery boys you can order eggs from. The probability of the first boy falling and breaking all the eggs is $\frac{1}{2}$ and the probability of the second boy falling and breaking all the eggs is $\frac{1}{5}$. How would you distribute your order for eggs so as to minimize expected total loss of eggs?
- (a) Order all your eggs from the first boy
 - (b) Order all your eggs from the second boy
 - (c) Distribute the order for eggs between the two boys equally
 - (d) Order three-fourths of your eggs from the first boy and the rest from the second boy
50. If you integrate the function $f(x) = 1/x$ from 1 to 3, you get
- (a) 2
 - (b) $\log 3$
 - (c) $\log 4$
 - (d) None of the above
51. If $x < y + \epsilon$ for all $\epsilon > 0$, then
- (a) $x > y$
 - (b) $x \leq y$
 - (c) $x > 0 > y$
 - (d) $x < 0 < y$
52. The rate of interest is
- (a) a flow variable
 - (b) a stock variable
 - (c) the ratio of a flow variable to a stock variable
 - (d) the ratio of a stock variable to a flow variable

53. The fiscal deficit is ..
- (a) a flow variable
 - (b) a stock variable
 - (c) the ratio of a flow variable to a stock variable
 - (d) the ratio of a stock variable to a flow variable

54. If in a given year a country's GDP at constant prices is 1000 currency units and the value of its implicit GDP deflator for that year is 110, the value of the country's GDP at current prices (in its currency units) is

- (a) 890
- (b) 909.09
- (c) 990.09
- (d) 1100

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$\frac{110 \times 1000}{100} = \text{NGDP}$$

$$\underline{\underline{1100 = \text{NGDP}}}$$

55. Suppose the difference between the transactions velocity and the income velocity of circulation of money in an economy is 5 and the money value of total transactions is 6 times the money value of aggregate income. If the quantity of money in circulation is 1000 currency units, then the money value of aggregate income in currency units is

- (a) 1000
- (b) 1200
- (c) 1500
- (d) 1800

$1000 U = P \cdot Y$
 Assume $P = 1$
 $1000 = Y$

$MV_Y = PY$
 $MV_T = PT$
 $\frac{MV_T}{T} = \frac{MV_Y}{Y}$
 $\frac{V_T}{T} = \frac{PY}{Y} \Rightarrow \frac{V_T}{T} = \frac{PY}{Y} = \frac{PY+5Y}{6Y}$
 $V_T = 1$

56. Suppose an asset provides returns of Rs 315 after one year, Rs 661.50 after two years and Rs 1389.15 after three years and nothing thereafter. If interest is compounded yearly and the rate of interest is 5% per annum, what is the present discounted value of the asset?

- (a) Rs 2,050
- (b) Rs 2,100
- (c) Rs 2,200
- (d) Rs 2,250

$$\frac{315}{1.05} + \frac{661.50}{(1.05)^2} + \frac{1389.15}{(1.05)^3} + 0$$

$$= 300 + 601.36 + 1200$$

$$= 2100$$

$$TR = P_x x + P_y y \quad P_x = 2P_y \quad 56.$$

$$2x + 32 - 5x$$

$$2 = 1$$

$$= \frac{-18}{(10-x)^2} = -2$$

$$= 2 + \frac{(10-x)(-5) + (32-5x)}{(10-x)^2} = 0$$

$$9 = (10-x)^2$$

$$x = 7$$

$$9 = 10-x$$

57. Suppose a plant can be used to produce in a day x units of product 1 and y units of product 2 where $y = (32 - 5x)/(10 - x)$, where $32/5 \geq x \geq 0$. If the unit price of product 1 is twice the unit price of product 2, then to maximize total revenue the number of units of x the plant should be used to produce in a day is.

(a) 4

(b) 5

(c) 6

(d) 6.1

$$0 \leq \frac{32}{5} \geq x \geq 0$$

Ans: 6.4

The next four questions 58-61 are based on the following:

Suppose, in equilibrium, aggregate income (in units of money per year) in an economy $Y = C + I$, where investment expenditure (in units of money per year) $I = 1000$ and aggregate consumption expenditure (in units of money per year) C satisfies the following conditions:

$$Y = C + I$$

$$= 500 + 1000$$

$$= 1500$$

$$C(1-t)$$

(i) C is a function of current disposable income in the economy (Y_d)

(ii) If $Y_d = 0$, then $C = 500$

(iii) Marginal propensity to save out of Y_d is constant in the economy and equal to 30%

Suppose the government collects direct tax revenues equal to 15% of Y and makes direct transfer payments equal to 750 units of money per year.

$$MPC + MPS = 1$$

$$MPC + 0.3 = 1$$

$$MPC = 0.7$$

58. What is the value of the investment multiplier in the economy?

(a) Between 1.9 and 2.1

(b) Between 2.1 and 2.3

(c) Between 2.3 and 2.5

(d) More than 2.5

$$Y = C + I$$

$$Y = C_0 + C_1(Y - T) + I$$

$$= 500 + 0.7(Y - 0.15Y + 750) + 1000$$

$$Y = \frac{1}{1 - 0.7(1 - 0.15)}$$

$$\frac{1}{1 - 0.595} = \frac{1}{0.405} = 2.47$$

59. What is the equilibrium value of Y in the economy?

(a) Between 3250 and 3750

(b) Between 3750 and 4250

(c) Between 4250 and 4750

(d) Between 4750 and 5250

$$Y = 1500 + 525 + 0.85Y \times 0.7$$

$$Y = 0.595Y = 2025$$

$$0.405 = 2025$$

$$Y = \frac{2025}{0.405}$$

$$Y = 5000$$

60. If instead of 750 units of money the government makes annual transfer payments equal to 10% of Y , then the value of the investment multiplier will

- (a) decrease by less than unity
- (b) decrease by more than unity
- (c) increase by less than unity
- (d) increase by more than unity

$$Y = 500 + 0.7(Y - 0.15Y + 0.1Y) + 1000$$

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1 - 0.7(1 - 0.15 + 0.1)}$$

$$= \frac{1}{1 - 0.665} = \frac{1}{0.335} = 2.98$$

61. If instead of 750 units of money the government makes annual transfer payments equal to 10% of Y , then the equilibrium value of Y will

- (a) decrease by less than 1000
- (b) decrease by more than 1000
- (c) increase by less than 1000
- (d) increase by more than 1000

$$0.05Y = 1000$$

$$Y = \frac{1000}{0.335}$$

$$= 4478$$

The next three questions 62–64 are based on the following information :

A student has taken 5 courses : Philosophy, Biology, Economics, Mathematics and Literature. He studies for these courses according to the following pattern :

Every week the student studies for exactly three courses.

If he studies Biology in a week, then he also studies Philosophy that week.

If he studies Economics in a particular week, then he does not study it in the following week.

In any particular week he studies not more than one of the subjects studied in the preceding week.

62. Which of the following is a possible sequence of combinations for the student in the two successive weeks?

- (a) Week 1 : Philosophy, Biology, Economics; Week 2 : Biology, Mathematics, Literature
- (b) Week 1 : Philosophy, Biology, Mathematics; Week 2 : Philosophy, Biology, Literature
- (c) Week 1 : Philosophy, Mathematics, Literature; Week 2 : Philosophy, Biology, Economics
- (d) Week 1 : Biology, Mathematics, Literature; Week 2 : Philosophy, Economics, Mathematics

63. If the student studies Philosophy, Biology and Economics in the first week, which of the following combinations must be studied in the third week?
- (a) Philosophy, Biology and Economics
 - (b) Philosophy, Biology and Mathematics
 - (c) Philosophy, Economics and Mathematics
 - (d) Economics, Mathematics and Literature
64. If the student studies Philosophy, Literature and Mathematics in the first week, which of the following combinations must be studied in the eleventh week?
- (a) Philosophy, Literature and Mathematics
 - (b) Philosophy, Biology and Mathematics
 - (c) Philosophy, Economics and Mathematics
 - (d) Economics, Mathematics and Literature
65. If x , y and z are consecutive negative integers, and if $x > y > z$, which of the following must be a positive odd integer?
- (a) xyz
 - (b) $(x - y)(y - z)$
 - (c) $x - yz$
 - (d) $x(y + z)$
66. Suppose one wishes to prove that "if all X are Y , then all Z are W ". To do this, it would suffice to show that
- (a) all Z are X , and all W are Y
 - (b) all Y are Z , and all W are X
 - (c) all X are Z , and all Y are W
 - (d) all Z are X , and all Y are W
67. Let X and Y be statements. If we want to *disprove* the claim that " X implies Y ", we need to show that
- (a) $\neg X$ is false
 - (b) Y is false
 - (c) X is true, but Y is false
 - (d) Y is true, but X is false


68. Let X , Y and Z be statements. Suppose we know that X implies Y , and that Z implies X . We also know that Y is false. We can infer that
- (a) X is false, and Z is true
 - (b) X is true, and Z is false
 - (c) both X and Z are true
 - (d) both X and Z are false
69. Let X and Y be statements. Which of the following strategies is *not* a valid way to show that " X implies Y "?
- (a) Show that some statements Z implies Y , and then show that X implies Z
 - (b) Show that either X is false, or Y is true, or both
 - (c) Assume that X is false, and Y is true, and deduce a contradiction
 - (d) Assume that X is true, and Y is false, and deduce a contradiction
70. Let $P(n, m)$ be a property about two integers n and m . If we want to prove that "for every integer n , there exists an integer m such that $P(n, m)$ is true", then we should do the following
- (a) Let n and m be arbitrary integers. Then show that $P(n, m)$ is true
 - (b) Find an integer m such that $P(n, m)$ is true for every integer n
 - (c) Let n be an arbitrary integer. Then find an integer m possibly depending on n such that $P(n, m)$ is true
 - (d) Find an integer n and an integer m such that $P(n, m)$ is true
71. Let X and Y be statements. If we know that X implies Y , then we can also conclude that
- (a) X is true, and Y is also true
 - (b) if X is false, then Y is false
 - (c) if Y is true, then X is true
 - (d) if Y is false, then X is false

72. Let X , Y and Z be statements. Suppose we know that X implies Y , and that Y implies Z . If we also know that X is false, we can infer that
- (a) Y is true, and Z is false
 - (b) Y is false, and Z is true
 - (c) both Y and Z are false
 - (d) None of the above
73. The United States is a major exporter of
- (a) diamond
 - (b) bauxite
 - (c) coffee
 - (d) corn
74. The terms of trade are
- (a) the countries' production possibilities curve
 - (b) the autarky equilibrium
 - (c) the exchange rate of the two goods being traded
 - (d) the value of exports
75. Autarky means that
- (a) a country's **consumption possibilities** are given by its **production possibilities**
 - (b) equilibrium attained with the maximum gains from specialization and trade
 - (c) equilibrium has been reached with the maximum amount of international trade
 - (d) the nation has such a high standard of living that there are no poor people
76. Linear accelerator has the following characteristic
- (a) Depends on expectations and has the dimension of time
 - (b) Depends on expectations and has the dimension of inverse time
 - (c) Does **not depend** on expectations and has the dimension of time
 - (d) Does not depend on expectations and has no time dimension

$$\frac{s}{\theta} = gn$$

$$\frac{0.14}{0.04} = gn + 0.03$$

$$gn = 3.47$$

77. If the saving propensity is 14% and the incremental capital output ratio is 4, and the population rate of growth is 3%, there is constant returns to scale and no technical progress.
- (a) warranted rate of growth is greater than the natural rate of growth
 - (b) warranted rate of growth is less than the natural rate of growth
 - (c) the economy will always grow at 3% rate of growth
 - (d) the economy will always grow at more than 3% rate of growth
78. There are four bus routes between A and B and three bus routes between B and C. A man can travel round trip in number of ways by bus from A to C via B. If he does not want to use a bus route more than once, in how many ways can he make round trip?
- (a) 72 
 - (b) 144
 - (c) 14
 - (d) 19
79. The Economics Nobel Prize for the year 2009 was awarded to
- (a) Elinor Ostrom and Oliver Williamson
 - (b) Paul Krugman
 - (c) John Nash
 - (d) Robert Aumann and Thomas Schelling
80. Consider the set $A = \{x | 0 < x < 1\}$. What is the minimum number that belongs to set A?
- (a) 0
 - (b) 0.001
 - (c) 0.00002
 - (d) There is no minimum number in set A
81. In the list of five countries given below, choose the one which has a positive trade surplus
- (a) USA
 - (b) Great Britain
 - (c) Greece
 - (d) China

82. Which one of the statements given below is correct for the year 2000-01?

- (a) The primary sector of the Indian economy is 50% of the GDP
- (b) The tertiary sector of the Indian economy is 50% of the GDP
- (c) The GDP contribution of the primary sector of the Indian economy is larger than that of the secondary sector
- (d) The GDP contribution of the secondary sector of the Indian economy is larger than that of the tertiary sector

83. If utensils worth Rs 100 are produced with steel worth Rs 50, wages paid are Rs 10, depreciation of machinery is 0 and other material purchased is Rs 10, then value added in the process is

- (a) Rs 40
- (b) Rs 50
- (c) Rs 100
- (d) Rs 10

$$100 - 50 = 50$$

84. If an economy produces GDP of Rs 30 billion per year with a capital stock of Rs 135 billion, then capital output ratio is a

- (a) stock variable with a value of Rs 4.5 billion
- (b) stock variable with a value 4.5 years
- (c) flow variable with a value of Rs 4.5 billion
- (d) flow variable with a value of 4.5 as pure number

85. An economy has a proportionate income tax at the rate t , marginal propensity to consume of α and marginal propensity to import of m , with values $\alpha = 0.8$, $t = 0.2$, $m = 0.1$. The short-run investment multiplier of the economy will be:

- (a) $1/[1 - \alpha(1 - t) + m] = 50/23$
- (b) $1/[1 - (\alpha - m)(1 - t)] = 25/11$
- (c) $1/[1 - \alpha(1 - t) - m] = 50/3$
- (d) $1/[1 - \alpha + t + m] = 2$

$$MPC = \alpha \quad t_y = t$$

$$MPM = m$$

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1 - \alpha(1 - t) + m}$$

$$= \frac{1}{1 - 0.8(1 - 0.2) + 0.1}$$

$$= \frac{1}{1 - 0.54} = \frac{1}{0.46}$$

$$= \frac{100}{46} = \frac{50}{23}$$

86. The 'Sub-prime Lending' crisis was originated in

- (a) India
- (b) USA
- (c) UK
- (d) China

87. In the following statements, 'investment' is meant to be investment from a macroeconomic point of view. The following transactions (i), (ii) and (iii) have taken place in the economy :

- (i) Your family has taken out a mortgage from a bank and purchased a new house with the loan advanced to your family by the bank.
- (ii) You have used your salary to buy share of the Steel Authority of India Ltd.
- (iii) You draw money from your savings bank account of State Bank of India (SBI) and invest in SBI mutual fund share.

Indicate which combination of statements is correct

- (a) Transaction in (i) represents an act of net zero investment, transaction in (ii) represents an act of net positive saving, transaction in (iii) represents an act of net positive investment
- (b) Transaction in (i) represents an act of net positive investment, transaction in (ii) represents an act of net positive saving, transaction in (iii) represents an act of net positive saving
- (c) Transaction in (i) represents an act of net positive investment, transaction in (ii) represents an act of net investment, transaction in (iii) represents an act of saving
- (d) Transaction in (i) represents an act of net positive investment, transaction in (ii) represents an act of net positive saving, transaction in (iii) represents an act of net zero saving

88. The sum of the first n odd integers is

(a) n^2



(b) n^3

(c) n

(d) $4n$

89. Which of the following will be an inverse function of $f(x) = x^2$?

(a) $g(y) = 1/y$

(b) $g(y) = y^2$

(c) $g(y) = \frac{1}{2}y$

(d) There is no inverse function



90. The share of the primary sector in the Indian Labour Force in 2000 was approximately around

(a) 50 percent

(b) 60 percent

(c) 70 percent

(d) 80 percent

91. The country with the largest external debt in the world today is

(a) Brazil

(b) Argentina

(c) China

(d) United States



92. The beginning of modern industry in India occurred in

- (a) the late 18th century
- (b) the beginning of the 19th century
- (c) the middle of the 19th century
- (d) the turn of the 20th century

93. Market capitalization in the Bombay Stock Exchange (BSE) rose by 100 percent in a single year. This means that

- (a) the senscx rose by 100 percent during that year
- (b) the value of shares traded at the BSE over the year increased by 100 percent when compared with the previous year
- (c) the value of all outstanding shares of companies listed at the BSE rose by 100 percent
- (d) the prices of every share listed at the BSE rose by 100 percent

94. Two events are said to be independent if

- (a) $\text{Prob}(A \text{ and } B) = \text{Prob}(A) \cdot \text{Prob}(B)$
- (b) $\text{Prob}(A \text{ and } B) = \text{Prob}(A) + \text{Prob}(B)$
- (c) $\text{Prob}(A/B) = \text{Prob}(A) - \text{Prob}(B)$
- (d) $\text{Prob}(A/B) = \text{Prob}(A) - \text{Prob}(B) + \text{Prob}(A \text{ and } B)$

95. Which of the following is *not* a tool of monetary policy?

- (a) The tax rate
- (b) The interest rate
- (c) The cash-reserve ratio
- (d) Open market operations of the central bank

Read the following passage and answer the questions 96-100 :

"In the beginning, money was a commodity like any other, save that its physical characteristics allowed of its being divided into parts of varying but specific weight, and it had high enough worth in small enough bulk so that it could be readily carried around. Thus it served as an intermediate step in exchange, eliminating the inherent awkwardness of barter. And it was a convenient way of holding wealth—a storehouse of value.

But in major measure the separate identity of money, its personality, was discovered with the establishment of banks; through banks the supply of money could be increased or, on occasion, sharply diminished, and this, more or less at will. The funds thus made available could be used for investment, necessary or frivolous consumption or the needs of the State.

Together, the deposits and the banknotes were in excess of the value of the metal on which they were based. This, however, was entirely safe and acceptable for so long as everyone—original depositors, borrowers, noteholders—did not come at the same time for the hard money. Unless there were fear, panic or spreading rumour and unease about the competence and solidity of the bank—all by no means negligible possibilities—this would not happen.

Given the profits possible from this manufacture of money—the return in interest for an effortless act of lending—the temptation to overdo a quite wonderful thing was obvious. Out of temptation were born the central banks and much of the structure of modern bank regulation. In return for various privileges, including in latter times the exclusive right to issue notes, central banks came into existence. They then proceeded to regulate the lending and money creation of the lesser banks, which they did in an inconveniently disciplinary way by returning to the smaller banks their notes for payments in metal and by enforcing minimum levels of reserves against deposits."

(John Kenneth Galbraith, A History of Economics : The past as the present, Chapter 12)

96. Galbraith argues that

- (a) money was a commodity like any other until central banks were created
- (b) money was at first a commodity that could be easily divided by weight and carried around easily
- (c) the physical feature of money being something that can be carried around easily gives it a special personality
- (d) money can never be more than an intermediate feature in exchange

97. The presence of banks means that

- (a) money in circulation can be in excess of the supply of metal that is money
- (b) deposits in banks must always be equal to the notes issued by banks
- (c) money is always safe in banks and this is acceptable to all
- (d) banks are the basic storehouse of value

98. Central banks exist because

- (a) banks earn profits—in the form of a return in interest—from an effortless act of lending
- (b) the funds loaned out can be used for investment, necessary or frivolous consumption or the needs of the State
- (c) all banks want the exclusive power to issue notes
- (d) it is necessary to regulate the lending and money creation of lesser banks, given the temptation to overdo lending

99. Minimum levels of reserves against deposits

- (a) is a rule that money creation necessarily imposes on all banks
- (b) are necessary because depositors, borrowers and noteholders all come to banks at the same time for their money
- (c) are part of the regulatory actions of central banks
- (d) are returns for various privileges that are accorded to banks

100. The supply of money in an economy can be increased or decreased at will

- (a) because of the inherent awkwardness of barter
- (b) through the activities of banks
- (c) because money is a storehouse of value
- (d) since deposits and banknotes cannot be in excess of the metal on which they are based
