

# Gokhale Institute of Politics and Economics

(Deemed to be University u/s 3 of the UGC Act, 1956)

Pune – 411 004

## Entrance Examination for Masters Programmes

### Mock Test

#### Section A

(18 marks)

- Q. 1 How are the points (3,4) and (2,-6) situated with respect to line  $3x - 4y - 8 = 0$  ?
- both lie on the line
  - both lie on the same side of zero on the line
  - each lies on the opposite sides of the zero on the line
  - None of the above
- Q. 2 Which of the following is **not correct** in respect of the sets A and B?
- If  $A \subset B$ , then  $B \cup A = B$
  - If  $A \subset B$ , then  $B \cap (A - B) = \emptyset$
  - If  $A \subset B$ , then  $B \cap A = A$
  - If  $A \cap B = \emptyset$  then neither  $A = \emptyset$  or  $B = \emptyset$
- Q. 3 What is the value of  $[\text{Log}_{13}(10)] / [\text{Log}_{169}(10)]$
- 1/2
  - 2
  - 1
  - $\text{Log}_{10}(13)$
- Q. 4 Train-A crosses a pole in 25 seconds and another Train-B crosses a pole in 1 minute and 15 seconds. Length of train-A is half length of train-B. What is the respective ratio between the speed of Train-A and Train-B?
- 3 : 2
  - 3 : 4
  - 4 : 3
  - Cannot be determined
- Q. 5 Leena's monthly income is equal to the cost of 34 kg of groundnuts. Cost of 10 kg of groundnuts is equal to the cost of 20 kgs of apples. If cost of 12 kg of apples is Rs. 1500/-. What is Leena's annual salary?
- Rs. 1 lac 20 thousand
  - Rs. 1 lac 2 thousand
  - Rs. 2 lac 20 thousand
  - Cannot be determined
- Q. 6 Pradeep invested 20% more than Mohit. Mohit invested 10% less than Raghu. If the total sum of their investment is = 17,880, how much amount did Raghu invest?
- Rs 6,000
  - Rs8,000
  - Rs 5,000
  - None of these
- Q. 7 What is the derivative of  $y = x^x$ ?
- $x^{x-1}$
  - $(x-1)x^{x-1}$
  - $e^{(1+x \ln(x))}$
  - $x^x(1 + \ln(x))$
- Q. 8 Determine
- $$\lim_{x \rightarrow \infty} \left( \frac{2x^3 + 4x}{3x^5 - 4x^2 - 2} \right)$$
- 1
  - 2/3
  - 2/5
  - 0
- Q. 9 If  $289 = 17^{x/5}$  then x =
- 16
  - 8
  - 32
  - 2/5
- Q. 10 What is the solution to the following system of linear equations?

$$x_1 - 2x_2 + 2x_3 = 5$$

$$x_1 - x_2 = -1$$

$$-x_1 + x_2 + x_3 = 5$$

- a) There is no solution                      b)  $(x_1, x_2, x_3) = (1, 2, 4)$   
c)  $(x_1, x_2, x_3) = (2, 3, 10)$               d)  $(x_1, x_2, x_3) = (1, 3, 5)$

- Q. 11 If the ratio of x to y is 25 times the ratio of y to x , then what is the ratio of x to y?  
a) 1:5                      b) 5:1                      c) 25: 1                      d) 1:25

- Q. 12 A milk vender bought 28 Litres of milk at the cost of Rs 8.50 per litre. After adding some water he sold the mixture at the same price .If he gains 12.5% profit on selling 28 litres . How much water did he add?  
a) 5.5 Litres              b) 3.5 Litres              c) 1.5 Litres              d) 2.5 Litres.

- Q. 13 Half the people on a bus get off at each stop after the first, and no one gets on after the first stop. If only one person gets off at stop number 7, how many people got on at the first stop?  
a) 64                      b) 32                      c) 16                      d) 8

- Q. 14 Which of the following statements about the correlation coefficient are true?  
I. The correlation coefficient and the slope of the regression line may have opposite signs.  
II. A correlation of 1 indicates a perfect cause-and-effect relationship between the variables.  
III. Correlations of  $+0.87$  and  $-0.87$  indicate the same degree of clustering around the regression line.  
a) I only                      b) II only                      c) III only                      d) I, II, and III

- Q. 15 What does  $p < 0.05$  mean ,  
a) the probability of the chance occurrence of more than 1 in 2  
b) the probability of a chance occurrence of less than 1 in 20  
c) the probability of a chance occurrence of less than 5 in 20  
d) the probability of a chance occurrence of less than 1 in 100

- Q. 16 A sample of 400 Delhi households is selected and several variables are recorded. Which of the following statements is correct?  
a) Total household income (in Rs) is interval level data.  
b) Socioeconomic status (recorded as “low income”, “middle income”, or “high income” is nominal level data.  
c) The number of people living in a household is a discrete variable.  
d) The primary language spoken in the household is ordinal level data.

- Q. 17 When data are positively skewed, the mean will usually be  
a) greater than the median                      b) smaller than the median  
c) equal to the median                      d) positive

- Q. 18 In hypothesis testing, Type II error is made if  
a) we reject the null hypothesis when the alternative hypothesis is true  
b) we do not reject the null hypothesis when the null hypothesis is true  
c) we reject the null hypothesis when the null hypothesis is true  
d) we do not reject the null hypothesis when the alternative hypothesis is true



- Q. 27
- |   |   |   |   |
|---|---|---|---|
|   |   |   |   |
| A   | B   | C   | D   |
|  |  |  |  |
| (1)   | (2)   | (3)   | (4)   |
- answer C

- Q. 28 In a certain code JUST is written as #@%\$ and LATE is written as ©↑\$★. How is TASTE written in that code?
- a) ★↑%\$★                      b) \$↑%\$★                      c) \$↑%★\$                      d) \$%↑%★
- Q. 29 How many such digits are there in the number 7346285, which are as far away from the beginning of the number, as they will be, when arranged in ascending order within the number?
- a) None                      (b) one                      c) two                      d) more than three
- Q. 30 ABC : ZYX :: CBA : ?
- a) ZXY                      b) BCA                      c) XYZ                      d) XZY

### Section C

(30 marks)

- Q. 31 To maximize utility, a consumer with a fixed budget will purchase quantities of goods so that the ratios of the marginal utility of each good to its
- a) total utility are the same                      b) price are the greatest  
c) price are equal to one                      d) price are equal
- Q. 32 When firms, restructure their operations to decrease production costs, the aggregate supply curve, the price level and real output will change in which of the following ways?
- |    | Aggregate Supply Curve | Price Level | Real Output |
|----|------------------------|-------------|-------------|
| a) | Shift to the left      | Increase    | Increase    |
| b) | Shift to the left      | Increase    | No change   |
| c) | Shift to the right     | Increase    | Increase    |
| d) | Shift to the right     | Decrease    | Increase    |
- Q. 33 If the growth rate of the labour force exceeds the growth rate of output, which of the following will be true in the long run?
- a) Wage rates will tend to remain constant  
b) Wage rates will tend to fall  
c) The number of unemployed people will fall  
d) The level of employment does not change
- Q. 34 A profit-maximizing monopolist selects its output level in the
- a) inelastic region of its demand curve  
b) elastic region of its demand curve  
c) range of output where marginal revenue is rising  
d) range of output where marginal cost is falling
- Q. 35 Let W denote the nominal wage, P the output price and  $MP_L$  the marginal product of labor. Which of the following relationships correctly estimate the marginal cost (MC) of production for a perfectly competitive firm in the short run?



- Q. 44 In an economy narrow money is equal to the sum of which of the following?
- RBI currency notes in circulation.
  - Rupee coins and notes in circulation.
  - Small coins.
  - Demand deposits with banks and other deposits with RBI.
- a) Both (i) and (ii) above                      b) Both (ii) and (iii) above  
b) Only (i), (ii) and (iv) above                c) All of (i), (ii), (iii) and (iv) above.
- Q. 45 The central bank is forced to accommodate fiscal policy under \_\_\_\_\_ exchange rates, which makes fiscal policy a \_\_\_\_\_ influence on equilibrium income.
- a) fixed, powerful                                  b) fixed, powerless  
c) flexible, powerful                                d) flexible, powerless
- Q. 46 A pure private good is
- nonrival in consumption and subject to exclusion.
  - rival in consumption and subject to exclusion.
  - rival in consumption and not subject to exclusion.
  - all of the above
- Q. 47 Price ceilings
- always increase consumer surplus.
  - may decrease consumer surplus if demand is sufficiently elastic.
  - may decrease consumer surplus if demand is sufficiently inelastic.
  - always decrease consumer surplus.
- Q. 48 Suppose a firm in a perfectly competitive industry sells corn, and the firm's average variable cost (AVC) function is  $(q-3)^2+3$ . What is this firm's shutdown price?
- a) 0                      b) 4                      c) 3                      d) 9
- Q. 49 Suppose the production function of a firm is given by  $f(x_1, x_2) = x_1^{0.5}x_2^{0.5}$ . What is the technical rate of substitution at  $x_1 = x_2 = 15$ ?
- a) 15                      b) 10                      c) 1                      d) -1
- Q. 50 Assume the Equilibrium GDP is \$4,000 billion. Potential GDP is \$5,000 billion. The marginal propensity to consume is  $4/5$  (0.8). By how much and in what direction should government purchases be changed?
- a) increase by \$1,000 billion                      b) decrease by \$1,000 billion  
c) increase by \$100 billion                              d) increase by \$200 billion
- Q. 51 In the Keynesian aggregate-expenditure model, if the MPC is 0.75 and gross investment increases by \$6 billion, equilibrium GDP will increase to
- a) \$6 billion                      b) \$ 8 billion                      c) \$ 12 billion                      d) \$ 24 billion
- Q. 52 The key feature of oligopoly is
- excess capacity                                      b) high profitability.
  - product differentiation.                              d) interdependence of firms.
- Q. 53 An example of a contractionary monetary policy is
- an increase in the required reserve ratio.
  - a reduction in the taxes banks pay on their profits.
  - a decrease in the discount rate.
  - the Fed buying government securities in the open market

- Q. 54 Evidence that a horizontal LM curve occurred during the depression years would require showing that individuals
- refused to spend excess money.
  - increased the spending of excess money.
  - sold bonds and bought goods.
  - were indifferent between holding money and bonds.
- Q. 55 The “compensated” demand curve is the demand curve that
- shows only the income effect.
  - shows only the substitution effect.
  - shows both the income and substitution effects.
  - None of the above.
- Q. 56 If the demand curve for a good is upward sloping, then which of the following statements must be true?
- The good is inferior.
  - The substitution effect is in the opposite direction to the income effect.
  - The substitution effect overwhelms the income effect.
- 1 only.
  - 2 only.
  - 1 and 2 only.
  - 2 and 3 only.
- Q. 57 If leisure is an inferior good, the individual’s supply curve for labor is
- backward bending.
  - completely inelastic.
  - upward sloping.
  - perfectly elastic.
- Q. 58 A negatively sloped isoquant implies
- products with negative marginal utilities.
  - products with positive marginal utilities.
  - inputs with negative marginal products.
  - inputs with positive marginal products.
- Q. 59 Suppose a firm is using only two inputs, labor and capital. What will happen if the price of labor falls?
- The firm’s average cost curve will shift downward.
  - The firm’s marginal cost curve will shift downward.
  - To produce an unchanged output, the firm would use more labor.
  - All of the above.
- Q. 60 Along the long-run supply curve for a perfectly competitive industry, all of the following can vary except
- the level of profits.
  - the number of firms in the industry.
  - input prices.
  - the level of input usage.

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