# Gokhale Institute of Politics and Economics 

(Deemed to be University u/s 3 of the UGC Act, 1956) Pune-411004
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 lone $3 \mathrm{x}-4 \mathrm{y}-8=0$ ?
a) both lie on the line
b) both lie on the same side of zero on the line
c) each lies on the opposite sides of the zero on the line
d) None of the above
Q. 2 Which of the following is not correct in respect of the sets A and B ?
a) If $\mathrm{A} \quad \mathrm{B}$, then $\mathrm{B} \cup A=B$
b) If $\mathrm{A} B$, then $B \cap(A-B) \varnothing$
c) If $\mathrm{A} B$, then $B \cap A=A$
d) If $\mathrm{A} \cap B=\emptyset$ then neither $A=\emptyset$ or $B=\emptyset$
Q. 3 What is the value of $[\log 13(10)] /[\log 169(10)]$
a) $1 / 2$
b) 2
c) 1
d) $\log _{10}(13)$
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?
a) $3: 2$
b) $3: 4$
c) $4: 3$
d) 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?
a) Rs. 1 lac 20 thousand
b) Rs. 1 lac 2 thousand
c) Rs. 2 lac 20 thousand
d) 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?
a) $\operatorname{Rs} 6,000$
b) Rs 8,000
c) Rs 5,000
d) None of these
Q. 7 What is the derivative of $y=x^{x}$ ?
a) $x^{x-1}$
b) $(x-1) x^{x-1}$
c) $e^{(1+x \ln (x))}$
d) $x^{x}(1+\ln (\mathrm{x}))$
Q. 8 Determine
$\lim _{x \rightarrow \infty}\left(\frac{2 x^{3}+4 x}{3 x^{5}-4 x^{2}-2}\right)$
a) 1
b) $2 / 3$
c) $2 / 5$
d) 0
Q. 9 If $289=17^{x / 5}$ then $x=$
a) 16
b) 8
c) 32
d) $2 / 5$
Q. 10 What is the solution to the following system of linear equations?
$x_{1}-2 x_{2}+2 x_{3}=5$
$x_{1}-x_{2}=-1$
$-x_{1}+x_{2}+x_{3}=5$
a) There is no solution
b) $\left(x_{1}, x_{2}, x_{3}\right)=(1,2,4)$
c) $\left(x_{1}, x_{2}, x_{3}\right)=(2,3,10)$
d) $\left(x_{1}, x_{2}, x_{3}\right)=(1,3,5)$
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 boaught 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 +.87 and -.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 $\mathrm{p}<0.05$ mean,
a) the probability of the achance occurance of more than 1 in 2
b) the probability of a chance occurance of less than 1 in 20
c) the probability of a chance occurance of less than 5 in 20
d) the probability of a chance occurance 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

## Section B

Q. 19 P walked 20 metres towards North, took a left turn and walked 10 metres, then took a right turn and walked 20 metres, again took a right turn and walked 10 metres. How far is he from his starting point?
a) 50 metres
b) 60 metres
c) 40 metres
d) Cannot be determined
Q. 20 If in the number 589463271 all the odd digits are first arranged in ascending order and then all the even digits are arranged in ascending order, which digit will be second to the right of fifth digit from the right end?
a) 5
b) 6
c) 2
d) 4
Q. 21 If Star is called Planet, Planet is called Satellite, Satellite is called Galaxy, Galaxy is called Comet, then 'Earth' is classified under which category?
a) Galaxy
b) Comet
c) Planet
d) Satellite

Directions for $\mathbf{Q} .5$ in the question below three statements are given followed by three Conclusions numbered I, II and III. Read all the conclusions and then decide which of the given conclusions logically follow(s) from the given statements disregarding commonly known facts.
Q. 22 Statements:

Some books are trees. All trees are roads. All roads are wheels.

## Conclusions:

I. Some wheels are books.
II. Some roads are books.
III. Some wheels are trees.
a) Only I and II follow
b) Only II and III follow
c) Only I and III follow
d) All follow
Q. 23 In a certain code ROPE is written as $\% 57 \$$, DOUBT is written as $35 \# 8^{*}$ and LIVE is written as @ $24 \$$. How is TROUBLE written in that code?
a) *\%5\#8@\$
b) *\%\#58@\$
c) *\%5\#8@4
d) None of these
Q. 24 17, 19, 47, ?
a) 53
b) 50
c) 41
d) 34
Q. 25 Mohan correctly remembers that his father's birthday is before twentieth January but after sixteenth January whereas his sister correctly remembers that their father's birthday is after eighteenth January but before twenty- third January. On which date in January is definitely their father's birthday?
a) Eighteenth
b)Nineteenth
c) Twentieth
d) Data inadequate
Q. 26 Four of the five numbers, $103,131,157,217,241$ are similar in a certain way, and so form a group. Which is the one that does not belong to that group?
a) 217
b) 103
c) 241
d) 157
Q. 27

(4) answer C
Q. 28 In a certain code JUST is written as \#@\%\$ and LATE is written as © $\mathbb{\text { O }} \boldsymbol{\star}$. How is TASTE written in that code?
a)
$\star \uparrow \% \$$
b) $\$ \uparrow \% \$ \star$
c) $\$ \uparrow \%$ ไ $\$$
d) $\$ \% \uparrow \% \star$
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) $X Y Z$
d) $X Z Y$

## Section C

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 $\mathrm{MP}_{\mathrm{L}}$ 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?
a) $\mathrm{MC}=\mathrm{P} / \mathrm{MP}_{\mathrm{L}}$
b) $\mathrm{MC}=\mathrm{PxMP} \mathrm{L}_{\mathrm{L}}$
c) $\mathrm{MC}=\mathrm{W} \times \mathrm{MP}_{\mathrm{L}}$
d) $\mathrm{MC}=\mathrm{W} / \mathrm{MP}_{\mathrm{L}}$
Q. 36 If a firm's long-run average total cost increases as output increases, the firm is experiencing
a) economies of scale
b) diseconomies of scale
c) increasing returns to scale
d) maximum economic profit
Q. 37 A monopolistically competitive profit-maximizing firm is currently producing and selling 2000 units of output. At this level, marginal revenue is $\$ 9$, average revenue is $\$ 10$ and the average variable cost is $\$ 8$. The product price is
a) $\$ 8$
b) $\$ 9$
c) $\$ 10$
d) greater than $\$ 10$
Q. 38 Which of the following variable(s) are stock variable(s)?
I. Consumer price index
II. Gross domestic product
III. Money supply
IV. Exports
a) Both (I) and (III) above
b) I, II and III of the above
c) Only II above
d) All of the above
Q. 39 The value of the slope of a production isoquant is equal to the
a) Amount of one input used divided by the amount of the other input
b) Ratio of the marginal utilities of the two inputs
c) Ratio of the marginal products of the two inputs
d) Ratio of the marginal costs of the two inputs
Q. 40 Suppose the median disposable income measured in current rupees is 10000 and 20000 for 1978 and 1988 respectively. The economy's price index is 100 in the base year of 1978 and 250 in 1998. Which of the following is true?
a) Nominal median disposable income rose $50 \%$ over the period
b) Real median disposable income rose $250 \%$ over the period
c) Real median disposable income fell $50 \%$ over the period
d) The Rs. 10000 in 1978, measured in 1988 rupees, is equivalent to Rs. 25000
Q. 41 Two soft-drink firms, Fizzle \& Sizzle, operate on a river. Fizzle is farther upstream, and gets cleaner water, so its cost of purifying water for use in the soft drinks is lower than Sizzle's by Rs500000 yearly. According to this scenario, Fizzle and Sizzle
a) would be perfectly competitive if it costs Fizzle Rs500,000 yearly to keep that land.
b) would be perfectly competitive if it costs Fizzle Rs $1,000,000$ yearly to keep that land.
c) may or may not be perfect competitors, but their position on the river has nothing to do with it.
d) cannot be perfect competitors because they are not identical firms.
Q. 42 An industry has 1000 competitive firms, each producing 50 tons of output. At the current market price of $\$ 10$, half of the firms have a short-run supply curve with a slope of 1 ; the other half each have a short-run supply curve with slope 2 . The short-run elasticity of market supply is
a) $3 / 10$
b) $1 / 5$
c) $2 / 5$
d) none of the above
Q. 43 Consider a regression model relating soft drink delivery time (y) to the number of cases delivered (x1) and a dummy variable for snow and ice (x2). X2 is 1 when the delivery route is snowy or icy and 0 otherwise. The estimated regression model is $\mathrm{Y}=20+2 \mathrm{X}_{1}+10 \mathrm{X}_{2}+$ $1 \mathrm{X}_{1} \mathrm{X}_{2}$. The regression indicates that the mean delivery time for 10 cases when there is snow or ice on the route is
a) 30
b) 40
c) 50
d) 60
Q. 44

In an economy narrow money is equal to the sum of which of the following?
i. RBI currency notes in circulation.
ii. Rupee coins and notes in circulation.
iii. Small coins.
iv. 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 $\qquad$ exchange rates, which makes fiscal policy a $\qquad$ influence on equilibrium income.
a) fixed, powerful
b) fixed, powerless
c) flexible, powerful
d) flexible, powerless
Q. 46 A pure private good is
a) nonrival in consumption and subject to exclusion.
b) rival in consumption and subject to exclusion.
c) rival in consumption and not subject to exclusion.
d) all of the above
Q. 47 Price ceilings
a) always increase consumer surplus.
b) may decrease consumer surplus if demand is sufficiently elastic.
c) may decrease consumer surplus if demand is sufficiently inelastic.
d) 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 $(\mathrm{q}-3) 2+3$. 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 $f\left(x_{1}, x_{2}\right)=x_{1}^{0.5} x_{2}^{0.5}$. 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
a) excess capacity
b) high profitability.
c) product differentiation.
d) interdependence of firms.
Q. 53 An example of a contractionary monetary policy is
a) an increase in the required reserve ratio.
b) a reduction in the taxes banks pay on their profits.
c) a decrease in the discount rate.
d) 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
a) refused to spend excess money.
b) increased the spending of excess money.
c) sold bonds and bought goods.
d) were indifferent between holding money and bonds.
Q. 55 The "compensated" demand curve is the demand curve that
a) shows only the income effect.
b) shows only the substitution effect.
c) shows both the income and substitution effects.
d) 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?

1. The good is inferior.
2. The substitution effect is in the opposite direction to the income effect.
3. The substitution effect overwhelms the income effect.
a) 1 only.
b) 2 only.
c) 1 and 2 only.
d) 2 and 3 only.
Q. 57 If leisure is an inferior good, the individual's supply curve for labor is
a) backward bending.
b) completely inelastic.
c) upward sloping.
d) perfectly elastic.
Q. 58 A negatively sloped isoquant implies
a) products with negative marginal utilities.
b) products with positive marginal utilities.
c) inputs with negative marginal products.
d) 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?
a) The firm's average cost curve will shift downward.
b) The firm's marginal cost curve will shift downward.
c) To produce an unchanged output, the firm would use more labor.
d) All of the above.
Q. 60 Along the long-run supply curve for a perfectly competitive industry, all of the following can vary except
a) the level of profits.
b) the number of firms in the industry.
c) input prices.
d) the level of input usage.
