

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
First Semester MA Degree Examination, November 2016
MEC103 – Quantitative technique for economic analysis
(2016 Admission onwards)

Max. Time: 3 hours

Max. Weightage: 36

PART – A

Answer all questions.

Each bunch of four questions carries weightage 1.

A. Multiple choice

1. A square matrix A for which $AA^T = I$ is called :
 (a) Triangular Matrix (b) Zero Matrix
 (c) Orthogonal Matrix (d) All of these

2. The rank of $\begin{bmatrix} 1 & 2 & 3 \\ 3 & 6 & 9 \\ 2 & 4 & 6 \end{bmatrix}$ is
 (a) 0 (b) 1 (c) 2 (d) 3

3. $\frac{d}{dx} \sqrt{x}$ is
 (a) $\frac{1}{2\sqrt{x}}$ (b) $\frac{\sqrt{x}}{2}$ (c) $2\sqrt{x}$ (d) None of these

4. The differential dy of the function $y = x^2 + 3$ is
 (a) $2x$ (b) $(2x + 3)dx$ (c) $2x dx$ (d) none of these

5. $\int \log x dx$ is
 (a) $x \log x - x + c$ (b) $\frac{1}{x} + c$ (c) $x \log x + c$ (d) None of these

6. The value of $100C_{99}$ is
 (a) 100! (b) 99! (c) 100 (d) 99

7. If A and B are any two events such that $P(A) = 0.5$, $P(B) = 0.8$ and $P(A \cup B) = 0.9$, then $P(A/B)$ is
 (a) 0.8 (b) 0.5 (c) 0.4 (d) None of these

8. If X is a random variable, then $E(4X - 3)$ is
 (a) $4E(X) - 3$ (b) $4E(X)$ (c) $E(X) - 3$ (d) None of these

B. Fill in the Blanks

9. A matrix A such that $A^2 = A$ is called an Matrix.
10. The partial derivative $\frac{\partial}{\partial x}(x^2 + 2xy - y^2)$ is
11. Three unbiased coins are tossed, then the probability of obtaining atmost one head is
12. A set of mutually exclusive and exhaustive events forms a of the sample space.

C. State True or False

13. Determinant exists only for square matrices.
14. Matrix multiplication is commutative.
15. The events A and A^c are not mutually exclusive.
16. If $P(A) = \frac{1}{13}$, $P(B) = \frac{1}{4}$ and $P(AB) = \frac{1}{52}$, then $P(A \cap B^c) = \frac{3}{52}$.

(4 x 1 = 4)

PART - B

Short answer questions

Answer any 10 questions. Each question carries weightage 2.

17. Find the adjoint and inverse of the matrix $\begin{bmatrix} 4 & 0 & 1 \\ 3 & 2 & 1 \\ 1 & 5 & 2 \end{bmatrix}$.
18. Find the characteristic roots of the matrix $\begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$.
19. State Cayley Hamilton Theorem. Show that the matrix $A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$ satisfies the equation $A^2 - 2A - 3I = 0$. Hence find the inverse of A .
20. Find the partial derivatives $\frac{\partial z}{\partial x}$ and $\frac{\partial z}{\partial y}$ of the function $z = (x^2 + y^2)^2$.
21. The demand function of a firm is $P = 15 - 2x$ and the cost function is $C(x) = 2x$. Find the marginal cost and marginal revenue.
22. Find the total differential dy of the function $y = 2x_1x_2 + x_1^2 - 2x_2^2$.
23. Find the maximum and minimum values of $y = \frac{2}{3}x^3 + \frac{1}{2}x^2 - 6x + 8$.
24. Maximize $y = x_1x_2 + 2x_1$ subject to $x_1 + 2x_2 = 20$.
25. The probability that a student passes an Economic test is $\frac{2}{3}$ and the probability that he passes both an Economics test and an English test is $\frac{14}{25}$. The probability that he passes atleast one is $\frac{4}{5}$. What is the probability that he passes the English test?

26. Find the output at which the average cost is minimum from the total cost function
 $TC = 2Q^2 + 5Q + 18$.
27. State and prove Baye's theorem.
28. A player tosses 2 coins. If two heads appear he wins Rs.10. If one head turns he wins Rs.5. But if two tails turn he must pay Rs. 7 penalty. Calculate the expected value of the game of him.

(10 x 2 = 20)

PART - C

Essay Questions

Answer any 3 questions. Each question carries weightage 4.

29. Solve by Cramer's rule the following system of equations

$$2x_1 + x_2 + 3x_3 = 15$$

$$x_1 - 2x_2 + 5x_3 = 13$$

$$4x_1 + 3x_2 - x_3 = 11$$

30. (a) Given $y = 5x_1 + x_1x_2 - 2x_2^2$ where $x_1 = 5x_2^2$ find out total derivative $\frac{dy}{dx_2}$.

- (b) Find the total derivative $\frac{dy}{dt}$ given $y = 2x_1^2 - 5x_1x_2 - 6x_2^2$ where $x_1 = 3t^2$ and $x_2 = 5 - 2t$.

31. (a) A firm sells a product at Rs.9 per unit. The total cost of the firm for producing x units is given by $C = 20 + 0.6x + 0.01x^2$. How many units should be made to achieve maximum profit? Verify that the condition for a maximum is satisfied.

- (b) A company finds that it can sell out a certain item for Rs. 2 per unit. The cost function estimated to be $100 + \frac{1}{2} \left(\frac{q}{20} \right)^2$. What is the average cost when 100 units are produced? Find the marginal revenue and marginal cost?

32. Two groups are competing for the positions on the Board of Directors of a Corporation. The probabilities that the first and second groups will win are 0.6 and 0.4 respectively. Furthermore if the first group wins the probability of introducing a new product is 0.8 and the corresponding probability if the second group wins is 0.3. What is the probability that the new product will be introduced?

33. The probability density function of a continuous random variable X is given by

$$f(x) = \begin{cases} 6x(1-x), & 0 \leq x \leq 1 \\ 0, & \text{otherwise} \end{cases}$$

Evaluate $P(0 \leq X \leq \frac{1}{2})$ and $E(X)$.

(3 x 4 = 12)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

First Semester MA Degree Examination, November 2016

MEC104 – Indian Economy, Problems & Policies

(2016 Admission onwards)

Max. Time: 3 hours

Max. Weightage: 36

PART - A**Answer all questions.*****Each bunch of four questions carries weightage 1.*****Section A**

1. Studies on Farm size productivity are mainly associated with:

a. Monetk Singh Ahulvalia	b. V. K.R.V Rao
c. Amartya Sen	d. K. N Raj
2. Increase in the working age group of population is called:

a. Demographic profile	b. Demographic transition
c. Demographic dividend	d. Ageing
3. Life expectancy means:

a. Increase in the mean life time	b. increase in the birth rate
c. increase in the rate of growth of population	d. Increase in Mortality rate
4. Which one of the following is not related to India's official data base

a. Indian Economic Review.	b. National survey organization
c. Central statistical organisation.	d. Reserve bank of India

Section B

5. Which one of the following is not an indicator of regional disparity?

a. Per Capita SDP	b. Net State Domestic product
c. Trends in investment and financial assistance	d. Decentralized planning.
6. Ensuring that all people at all times have both physical and economic access to basic food they need is called:

a. Public distribution System	b Targeted public distribution
c. Food security	d. None of these
7. The growth rate of Kerala's population during the last ten years is:

a. 4.9 per cent	b. 2.2 percent
c. 5 percent	d. 3.0 percent
8. The industrial policy of 1980 introduced:

a. Broad branding	b. Protecting sick units
c. Amalgamation and merger	d. Disinvestment

State True or False

9. In India economy, the exit problem arises because of three types of reasons, what might be called the three I's: interests, institutions, and ideas/ ideology
10. The XI five year plan had aimed at achieving faster and more inclusive growth.
11. Demographic dividend can add to growth potential, provided higher levels of health, education and skill development
12. The central challenge of Indian agriculture is low productivity.

Fill In the Blanks

13. Public procurement -----has disproportionately focused on wheat, rice and sugarcane and perhaps even at the expense of other crops such as pulses and oilseeds.
14. -----of a country refers to the distribution of its population according to different occupation.
15. The main cause of the share of decline in the share of agriculture of primary sector is rapid fall in the share of -----
16. Government of India appointed a committee for shifting the focus of the law from curbing monopolies to promoting ----- in line with the international environment.

(4 x 1 =4 Weightage)

PART - B**Short answer questions**

Answer any ten questions not exceeding one page each.

17. Explain the causes of regional disparity in Indian economy
18. Explain the distribution pattern of national income
19. What are the factors that determine cropping pattern?
20. What is industrial sickness?
21. Explain the demerits of poverty line
22. Explain the problems in portfolio investment
23. Discuss the problem of educated unemployment in Kerala.
24. Write a note on the Kerala Model of development
25. What are the achievements of decentralisation development in Kerala
26. Explain the reasons for industrial backwardness in Kerala.
27. What are the objectives of new Industrial policy
28. Discuss the trend and Composition of External Migration from Kerala ?

(10 x 2 = 20 Weightage)

PART - C**Essay Questions**

Answer any three not exceeding three pages

29. Critically explain the problems of economic growth and contribution of national income to various sectors of Indian economy.
30. Discuss the major trends in India's foreign trade and various issues.
31. Critically evaluate the financial sector reforms.
32. Discuss the nature and reasons of stagnation of agriculture in Kerala. Suggest some remedial measures.
33. Evaluate the issues in fiscal crisis of Kerala. How this will influence the development.

(3 x 4 =12 Weightage)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

First Semester MA Degree Examination, November 2016

MEC102 – Macro Economics theory and Policy - I

(2016 Admission onwards)

Max. Time: 3 hours

Max. Weightage: 36

PART – A

Answer *all* questions.

Each bunch of four questions carries weightage 1.

A. Multiple choice

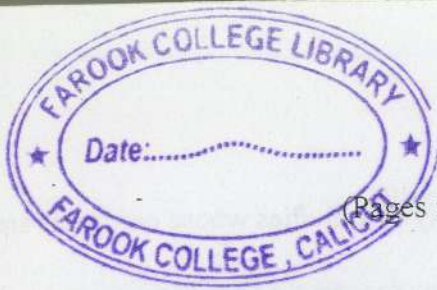
1. Variables that are measured in monetary terms are called
 (a) Real variable (b) Nominal variable
 (c) Exogenous variable (d) Endogenous variable
2. If MPC falls as income rises, then consumption function is said to be
 (a) Proportional (b) Non- Proportional
 (c) Linear (d) Non- Linear
3. In a three sector economy, the coefficient of *balanced budget multiplier* is equal to
 (a) Zero (b) One
 (c) Greater than one (d) Less than one
4. Which of the following is not a conjecture of Keynes's consumption function
 (a) $C=f(y)$ (b) $0 < MPC > 1$
 (c) MPC and APC is proportional (d) As Y rises c/y falls

B. Multiple choice

5. Arrow Debreu model based on
 (a) Optimizing behaviour of individual (b) Demand is equal to supply in all market
 (c) Both A and B (d) None of the above
6. An increase in the money supply have no effect upon equilibrium income, if
 (a) LM is steeply stopped and IS is relatively flat
 (b) LM is steeply sloped and IS is vertical
 (c) LM is vertical and IS is steeply sloped
 (d) LM is relatively flat as the IS
7. It is impossible to increase the level of output due to monetary policy, if the LM curve is
 (a) perfectly elastic (b) perfectly inelastic
 (c) relatively elastic (d) relatively inelastic
8. Which of the following statement is true about the new Keynesian belief?
 (a) Prices are flexible in the short run
 (b) Prices are rigid in the Short run due to transaction cost
 (c) New Technology is the main cause of Business cycle
 (d) Consumers do not behave according to rational expectation.

C. Fill in the Blanks

9. The permanent income hypothesis was developed by _____
10. The ratio of rate of return of investment to cost of capital is referred to as _____
11. The Keynesian aggregate supply curve is _____ in the long run.
12. When planned consumption equals Rs. $200+0.75Y$ and planned investment is RS 500, then equilibrium level of income is _____.



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(Pages : 2)

Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
First Semester MA Degree Examination, November 2016
MEC101 – Micro Economics theory and Application I
(2016 Admission onwards)

Time: 3 hours

Max. Weightage: 36

PART – A

Answer all questions.

Each bunch of four questions carries weightage 1.

A. Multiple choice

1. The situation in which some people purchase more of certain commodities the more expensive they are
 - (a) Conspicuous consumption
 - (b) Veblen effect
 - (c) Both (a) and (b)
 - (d) None of these
2. Snob effect is an example of
 - (a) Positive network externality
 - (b) Negative network externality
 - (c) External economies
 - (d) All of these
3. An individual for whom the marginal utility of money is constant; he or she is indifferent to a fair bet
 - (a) Risk averter
 - (b) Risk lover
 - (c) Risk neutral
 - (d) None of these
4. A situation where there is only one possible outcome to a decision, and this outcome is known precisely is called
 - (a) Uncertainty
 - (b) Certainty
 - (c) Risky
 - (d) Unpredictable

B. Multiple choice

5. Linearly homogenous production represents the case of
 - (a) Constant returns to scale
 - (b) Increasing returns to scale
 - (c) Decreasing returns to scale
 - (d) Negative returns to scale
6. Joint output of a single firm is greater than output that could be achieved by two different firms when each produces a single product is called
 - (a) economies of scale
 - (b) economies of scope
 - (c) diseconomies of scale
 - (d) diseconomies of scope
7. A game in which negotiation and enforcement of binding contracts are not possible
 - (a) Zero sum game
 - (b) Constant sum game
 - (c) Cooperative game
 - (d) Non cooperative game
8. The oligopoly model in which each firm treats the output level of its competitor as fixed when deciding how much to produce
 - (a) Cournot model
 - (b) Bertrand model
 - (c) Edgeworth model
 - (d) all the above

C. *Fill in the Blanks*

9. Reducing risk by allocating resources to a variety of activities whose outcomes are not closely related is called _____
10. Habit creation principle was developed by _____
11. The margin by which established firms can raise their price above the competitive price level persistently without attracting entry is _____
12. Short run average engineering cost curve is _____

D. *State True or False*

13. L shaped isoquant represents perfect substitutability between factors
14. In case of neutral technical progress, increase in marginal product of labour is equal to increase in marginal product of capital
15. Elasticity of substitution in case of Cobb Douglas production function is one.
16. Actuarially fair is a situation in which an insurance premium is equal to the expected payout

(4 x 1 = 4 Weigh

PART – B

Short answer questions

Answer any ten questions not exceeding one page each.

17. Describe the measurement of risk.
18. Explain Markowitz hypothesis.
19. Explain the concepts of risk pooling and risk spreading with respect to economics of insurance.
20. Explain positive network externality with reference to Bandwagon effect.
21. Explain how the pragmatic approach to demand is different from traditional demand theory.
22. Distinguish between economies of scale and economies of scope.
23. Why LAC curve is L shaped as per modern theory of cost?
24. What is meant by price leadership? What are the different forms of price leadership?
25. "Cournot solution is an example for Nash equilibrium." Explain,
26. Why first mover has an advantage in sequential games?
27. Explain Modigliani's limit pricing model as a generalization of Sylos's model.
28. What is a repeated game? What happens if the game is infinitely repeated?

(10 x 2 = 20 Weigh

PART – C

Essay Questions

Answer any three not exceeding three pages

29. What do you mean by Linear Expenditure System? Explain the model given by R. Stone.
30. Explain the Neumann Morgenstern hypothesis. How NM utility index is calculated?
31. What is CES production function? What are the properties of CES production function?
32. Critically examine Sweezy's oligopoly model.
33. Trace out the relationship between technical progress and production function.

(3 x 4 =12 Weightage)