

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous Degree College with P.G. Section under University of Calcutta)

B.A./B.SC. SECOND SEMESTER EXAMINATION, MAY 2011

FIRST YEAR

ECONOMICS (Honours)

Date : 24/05/2011

Time : 11 am – 3 pm

Paper : II

Full Marks : 100

[Use separate Answer Scripts for each group]

Group – A

1. Answer any three questions : [4×3 = 12]
 - a) Mention some of the basic features of the Mahalanobis strategy of planning in India.
 - b) Do you agree with the view that Indian plans are good in formulation but are rarely good in implementation?
 - c) Mention basic features of the New Agricultural Strategy adopted in India in the mid-sixties.
 - d) What are the various types of credit the rural people in India need?
 - e) What are the different ways in which poverty has been measured in India?
2. Answer any one question : [8×1 = 8]
 - a) Discuss briefly some of the possible and actual impacts of “globalization” on Indian agriculture.
 - b) ‘The reasons for the deceleration in the industrial growth rate in India since late 1990s are different from those of the earlier deceleration’— Do you agree? Discuss in brief.
3. Answer any two questions : [15×2 = 30]
 - a) Critically examine the alternative explanations offered for the inverse relationship between farm-size and productivity in the Indian economy. Do you think that the relation is true to a certain extent only? [11+4]
 - b) Critically evaluate the changes introduced in administration of PDS in our country in the period of economic reform. Discuss in this context the problem of “food-security” in India. [9+6]
 - c) Explain the nature of unemployment in India. Discuss in this connection that there is no disguised unemployment in India. [8+7]
 - d) Critically examine the disinvestment policy of the public sector units in India. Comment in this connection on performance of the public sector in the post-reform period. [10+5]

Group – B

1. Answer any three questions : [4×3 = 12]
 - a) Distinguish with illustration between natural scale chart and a semi logarithmic graph.
 - b) Give an example where harmonic mean would be the appropriate measure of central tendency.
 - c) The first two moments of a distribution about the value 2 are 2 and 26 respectively. Find the standard deviation.
 - d) Prove that Fisher’s ideal index number lies between Laspeyre’s and Paasche’s index number.
 - e) Distinguish between Probability mass function and Probability density function with appropriate examples.
2. Answer any one question : [8×1 = 8]
 - a) For a distribution the mean is 10, variance is 16, γ_1 is +1 and β_2 is 4, where $\gamma_1 = \sqrt{\beta_1}$ and β_1 and β_2 represent moment based measure of skewness and kurtosis respectively. Obtain the first four moments about the origin. Comment upon the nature of distribution. [6+2]

- b) If the Cost of Living Index (CLI) of the year 1985 with respect to the year 1980 be 175, find the weight of food from the following data : [8]

<u>Item</u>	<u>Percentage increase in Expenditure</u>	<u>Weights</u>
Food	65	?
Garments	90	12
Fuel	20	18
House Rent	150	20
Miscellaneous	70	10

3. Answer any two question : [15×2 = 30]

- a) i) Show that for any given set of observations standard deviation is never less than Mean Deviation taken about AM of the given observations.

- ii) The AM and SD of monthly family income (in Rs.) are given below separately for two villages :

<u>Village</u>	<u>No. of families</u>	<u>AM</u>	<u>SD</u>
1	82	552.75	40.20
2	75	615.56	56.24

Compare the two villages in respect of disparity in family income.

- iii) The mean, median and the coefficient of variation of a distribution are 45, 42, and 40% respectively. Find the standard deviation, mode and coefficient of skewness. [5+5+5]

- b) i) There are two sets of values of x. The first set with n_1 values has median M_1 and the second with n_2 values has Median M_2 . Show that the median of all $n_1 + n_2$ values taken together must lie between M_1 and M_2 .

- ii) In a class of 50 students a defective student attained 25 marks below average marks obtained by other students. Show that the variance of marks obtained by all the students cannot be less than 12.25. If the variance be actually 16, calculate the variance when the defective boy is left out. [8+7]

- c) i) State and prove the theorem of compound probability.

- ii) What is meant by independence of two events? Give an example to show pair-wise independence of events does not imply mutual independence.

- iii) Three boxes having the same appearance have the following number of white and black balls—
Box I : 1 white and 2 black ; Box II : 2 white and 1 black; Box III : 2 white and 2 black. One of these boxes is selected at random, and one ball is drawn randomly from it. It turns out to be white. What is the probability that the third box will be chosen? [4+5+6]

- d) i) Using a moment generating function find out the mean and the standard deviation of the Poisson distribution.

- ii) Let X be a continuous random variable with p.d.f given by :

$$f(x) = \begin{cases} kx & , 0 \leq x < 1 \\ k & , 1 \leq x < 2 \\ -kx + 3k & , 2 \leq x < 3 \\ 0 & , \text{elsewhere} \end{cases}$$

Determine the constant k and the cumulative distribution function.

- iii) A die is tossed 1200 times. Find the probability that the number of 'sixes' lies between 190 and 210. (Given that the area under the standard normal curve between $z = 0$ and $z = 0.78$ is 0.2823 and between $z = 0$ and $z = 0.81$ is 0.2910) [5+6+4]