6/H–16 (viii) (Syllabus–2015)

2018

(April)

ECONOMICS

(Honours)

(Development and Environmental Economics)

Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking at least **one** from each Unit

UNIT—I

1. Distinguish between economic growth and economic development. How has Human Development Index been able to comprehensively measure economic development? 5+10=15

2. *(a)* Explain different dimensions for the measurement of economic development. 8

(b) Discuss salient features of the theory of demographic transition. 7

UNIT—II

3. Discuss Lewis model of economic development. What are its limitations? 10+5=15

4. Critically examine Solow's model of economic growth. What are its basic assumptions? 12+3=15

UNIT—III

5. What is democratic planning? Distinguish between decentralized and indicative planning. Do you agree with the view that decentralised planning is the best type of economic planning for a developing country like India? Give reasons. 3+6+6=15

6. Describe Mahalanobis four-sector model. What are its major limitations? 12+3=15

UNIT—IV

7. Define environment and ecology. Examine the interlinkages among population, economic growth and environment with the help of suitable examples. 3+12=15

8. *(a)* Outline the reasons for market failure for environmental goods. 8

(b) Explain sustainable development and its indicators. 7

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(Statistics)

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UNIT—I

1. *(a)* What are the characteristics of a good measure of central tendency? 5

(b) Find the mean and standard deviation of first n-natural numbers. 3+7=10

2. *(a)* Find the 'mean deviation from median' of the following data : 5

17, 26, 14, 16, 12, 24, 21

(b) Calculate variance and coefficient of variation from the following data : 4+6=10

Class	*Frequency*
0–10	13
10–20	19
20–30	31
30–40	43
40–50	34
50–60	17
60–70	9
70–80	6

UNIT—II

3. Calculate Karl Pearson's coefficient of correlation between expenditure and sale from the data given below : 15

Expenditure ('000 ₹)	39	65	62	90	82	75	25	98	36	78
Sale (in lakh ₹)	47	53	52	86	62	68	60	91	51	84

4. The values of X and Y are given below :

X :	12	13	14	11	8	6	4	2	16	21
Y :	80	86	89	76	73	70	55	50	90	98

Find the two lines of simple regression. 15

UNIT—III

5. *(a)* Define time series and mention its components. 2

(b) Fit a trend equation $Y = a + bX$ and obtain the trend values from the following data : 10+3=13

X :	0	5	10	15	20	25
Y :	10	14	19	25	31	36

6. *(a)* Define index number and briefly discuss its uses. 5

(b) The prices per unit and the number of units consumed for four commodities A, B, C and D in two time periods are given below :

Commodity	*Base Year*		*Current Year*	
	Price (in ₹)	*Quantity* (in kg)	*Price* (in ₹)	*Quantity* (in kg)
A	20	8	40	6
B	50	10	60	5
C	40	15	50	10
D	20	20	20	15

Compute Laspeyres', Paasche's and Fisher's index numbers. 4+4+2=10

UNIT—IV

7. *(a)* State the addition and multiplication rules of probability. 4

(b) Let x be a random variable with sample space $S = \{1, 2, 3, 4, 5\}$ and $P(x=1) = \frac{1}{16}$, $P(x=2) = \frac{1}{4}$, $P(x=3) = \frac{3}{8}$, $P(x=4) = \frac{1}{4}$, $P(x=5) = \frac{1}{16}$. Find the probability of the following : 2

(i) $P(x = 4 \text{ or } x = 1)$

(ii) $P(x \text{ is at least } 1)$

(c) What is a binomial distribution? Show that Poisson distribution is a limiting case of binomial distribution. 2+7=9

8. Distinguish between the following (any *three*) : 5×3=15

(a) Simple and Composite hypotheses

(b) Type—I errors and Type—II errors

(c) One-tailed and Two-tailed tests of hypothesis

(d) Simple random sampling and Stratified random sampling

(e) χ^2-distribution and t-distribution

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