Reg. No ....   Name **22U119**

Time : Three Hours   Max. Marks: 75

PART A
Answer any 10 (2 marks each)

1. There are two units of an automobile company in two different cities employing 760 and 800 persons, respectively. The arithmetic means of monthly salaries paid to persons in these two units are Rs. 18750 and Rs.16950, respectively. Find the average salary of employees of both units taken together.

2. What do you mean by Effective rate of return? Give the formula

3. What is median?

4. " Index numbers are barometers of economic activity" Explain.

5. Choose the correct answer
    a) Statements: All men are vertebrates. Some mammals are vertebrates.
    Conclusions:
    1. All men are mammals.   2. All mammals are men.
    3. Some vertebrates are mammals.   4.All vertebrates are men.
    A.Only (4)   B.Only (2)
    C.Only (3)   D.Only (1)   E.Only (1) and (3)
    b). Pointing to a photograph Lata says, "He is the son of the only son of my grandfather." How is the man in the photograph related to Lata?
    A.Brother   B.Uncle
    C.Cousin   D.Data is inadequate

6. Define Quartile Deviation.

7. There are Five houses P, Q , R, S, T . P is right of Q and T is left of R and right of P . Q is right of S. Which house in the middle.

8. What is Empirical Analysis?

9. Find the wrong terms of the series 9, 29, 65, 126, 217, 344

10. What do you mean by Fixed base and Chain base index number?

11. What is an Interview schedule?

12. What is "Foot Note"?

                                                                                      (2 x 10 = 20)

PART B
Answer any 5 (5 marks each)

13. What is a Questionnaire? What are the qualities of a good questionnaire?

14. Four ladies & A, B, C and D and Four Gentlemen E, F, G and H are sitting in a circle around a table facing each other .

        I. No two ladies or gentlemen are sitting side by side.

II. C, who I sitting between G and E, is facing D.
III. F is between D and A and facing G.
IV. H is to the right of B.

1. Who is sitting left of A?
  a. E   (b) F   (c) G   (d) H
2. E is facing whom?
  a. F   (b) B   (c) G   (d) H
3. Who is immediate neighbour of B?
  a. G and H   (b) E and F   (c) E and H   (d) F and H

Give reason for your answers.

15. From the following data construct the index number for the year 2006 taking 2005 as base year under average of relative method using Arithmetic mean

Commodities	price in 2005	price in 2006
A	6	10
B	2	2
C	4	6
D	10	12
E	8	12

16. Find the median from the following

Mid Value (X)	5	15	25	35	45	55
Frequency	4	6	10	7	3	2

17. A dealer mixes tea costing Rs.6.92 per kg, with tea costing Rs.7.77 per kg and sell the mixture at Rs. 8.80 per kg and earns a profit of 17.5% on his sale price. In what proportion does he mix them?

18. Calculate quartile deviation of the following data

Class	0-9	10-19	20-29	30-39	40-49	50-59	60-69
Frequency	7	11	12	10	15	25	20

19. Find Standard Deviation of the following data:

Size	2	3	4	5	6	7	8
Frequency	1	2	3	5	3	2	1

20. Find the mean deviation from mean and its coefficient for the following values

No of Children	0	1	2	3	4	5	6
No of Families	171	82	50	25	13	7	2

(5 x 5 = 25)

PART C
Answer any 3 (10 marks each)

21. Below are given the figures of production of a coal mine.
Year :   2001 2002 2003 2004 2005 2006 2007
Production (in Tonnes): 70   85   94   83   90   100   98

i) Fit a straight line by the method of least square and calculate the trend values.
ii) Estimate the production for the year 2010.
iii) Plot these figures on a graph and show trend line.

22. From the following data compute the index number for 2016 using
    i) Laspeyre's ii) Paasche's. iii) Fisher's formula.

commodity	Quantity in units		Value in Rupees	
	2010	2016	2010	2016
A	90	120	450	600
B	80	90	480	630
C	75	80	300	240
D	50	60	350	300

23. What are the different methods of collecting primary data?

24. Calculate the median from the following. If 60% of the students pass the test, fin the minimum mark obtained by a pass candidate.

Marks	10-20	20-30	30-40	40-50	50-60	60-70
Students	10	20	10	7	2	1

25. An analysis of monthly wages paid to workers in two companies A and B gives the following results

	Company A	Company B
No. of wage earners	586	648
Average monthly wages	52.5	47.5
Variance	110	113

Which of the companies pays out larger amount as monthly wages

In which company there is greater variability in individual wages

Find the mean and SD of the wages of all the wage earners taken together

(10 x 3 = 30)