

**B. COM DEGREE END SEMESTER EXAMINATION : NOVEMBER 2023****SEMESTER 1 : COMMERCE (CORE COURSE)****COURSE : 19U1RCOM1 : BUSINESS STATISTICS***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 75

**PART A****Answer any 10 (2 marks each)**

1. What is a "Stub"?
2. In what time will Rs. 85000 amount to Rs. 1,57,675 at 4.5% p.a.?
3. Find the present value of Rs. 10,000 to be required after 5 years if the interest rate is 9%?
4. There were 500 workers working in a factory. Their mean wage was calculated as Rs. 200. Later it was discovered that the wage of two workers were misread as 180 and 20 instead of 80 and 220. Find the correct mean.
5. What is a Bi-variate frequency distribution?
6. Find the code for the following
  - a) In a certain code 'PURPOSE' is written as 'UPPRSOE'. How would 'WATER' be written in that code?
  - b) 'ZYXW' is coded as 'ABCD' then 'STUV' is coded as.....
7. What do you mean by distrust of statistics?
8. What is circular test?
9. What is meant by coefficient of variation?
10. What is opportunity cost?
11. Average rainfall in Ponmudi from Monday to Saturday was 5 cm. Due to heavy rainfall on Sunday, the average for the week increased to 10cm. Find the rainfall on Sunday.
12. Explain the demerits of moving average method for the measurement of trend.

**(2 x 10 = 20)****PART B****Answer any 5 (5 marks each)**

13. 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 is 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
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2. E is facing whom?
 

a. F	(b) B	(c) G	(d) H
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3. Who is immediate neighbour of B?
 

a. G and H	(b) E and F	(c) E and H	(d) F and H
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Give reason for your answers.

14. Find the standard deviation and coefficient of variation of the values:

Values	10	12	80	70	60	100	0	4
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15. Distinguish between stratified sampling and cluster sampling.  
 16. What are the desirable properties of a good measure of dispersion?  
 17. What is Coefficient of variation? What are its uses?  
 18. From the following calculate Fisher's ideal index number and see whether it satisfies time reversal and factor reversal test.

Commodity	BASE YEAR		CURRENT YEAR	
	price	expenditure	price	expenditure
A	6	300	10	600
B	2	200	2	240
C	4	240	6	360

19. Solve the following
- If in a certain language CARROM is coded as BZQQNL, which word will be coded as HORSE?
  - If PAINT is coded as 74128 and EXCEL is coded as 93596, then how would you encode ANCIENT?
  - If TAP is coded as SZO, then how is FRIEND coded?
  - In a certain code, MENTION is written as LNEITNO. How is PRESENT written in that code?
  - In a certain code, 2 is coded as P, 3 as N, 9 as Q, 5 as R, 4 as A and 6 as B. How is 423599 coded in that code?
20. Find missing frequency from following series, if N is 100 and median is 30.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
students	10	?	25	30	?	10

(5 x 5 = 25)

### PART C

Answer any 3 (10 marks each)

21. The following relate to the number of tourists visited in a tourist spot from 2001 to 2007. Fit a straight line trend by the method of least square obtain the trend value and also estimate the number of tourist expected to visit in 2010. Also calculate the monthly increase in sales.

year	no.of tourist
2001	300
2002	700
2003	600
2004	800
2005	900
2006	700
2007	1000

22. Calculate median from the following data:-

Marks	10-19	20-29	30-39	40-49	50-59	60-69
No of students	12	19	20	21	16	13

23. Calculate coefficient of variation and state who is more consistent, boys or girls?

Age in years	6	7	8	9	10	11	12	13
No of Boys	3	6	9	14	17	19	7	5
No of Girls	4	4	10	16	14	15	3	4

24. Compute the index number by :

- simple aggregative method
- simple average relative method
- weighted aggregative method
- weighted average relative method from the following information.

commodity	units of consumption	price in base year	price in current year
Rice	50	3	3.50
wheat	200	1	1.20
pulses	50	4	5
ghee	20	20	30
sugar	40	2	5
oil	50	10	15
fuel	60	2	2.50
clothing	40	15	18

25. Define statistics. State the functions and limitations of statistics.

**(10 x 3 = 30)**