BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BCA **SEMESTER : III**
BRANCH: BCA **SESSION : MO/2024**

SUBJECT: CN209 STATISTICS WITH R

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Define statistics, and statistical methods. Explain the uses of statistical methods in modern business organizations.	[5]	1	1
Q.1(b)	Distinguish between primary and secondary data. What precaution would you take before using data from secondary source?	[5]	3	2
Q.2(a)	Discuss the usefulness if diagrammatic presentation of statistical data in business research of any organization.	[5]	3	2
Q.2(b)	From the following distribution, prepare the less than and more than cumulative frequency curve (ogive curve).	[5]	2	3,4

C.I	0-10	10-20	20-30	30-40	40-50	50-60
Freq.	8	12	30	25	18	17

Q.3(a) Calculate arithmetic mean and the median of the frequency distribution given below. Hence calculate the mode using the empirical relation between three. [5] 2 4, 5

Heights (cm)	130 - 134	135-139	140-144	145-149	150-154	155-159	160-164
No. of students	5	15	28	24	17	10	1

Q.3(b) The following distribution shown the turnover of the branches of a group of multiple-shops on march 2024. [5] 4 4, 5

Turnovers (In Lakhs)	10-15	10-15	15-20	20-25	25-30	30-35	35-40
No. of shops	8	18	42	62	30	10	4

Using assumed mean of Rs. 22500/- calculate (i) Mean (ii) Standard deviation (iii) Co-efficient of variation.

Q.4(a)	What do you mean by the term conditional probability? A candidate is selected for an interview of management trainees for 4 companies. For the first company there are 10 candidates, for the second companies there are 15 candidates, for third there are 13 candidates and for the fourth companies there are 9 candidates. What is the chance if his getting job in any company?	[5]	3	3,4
Q.4(b)	Define Normal distribution. A workshop produces 2000 units per day. The average weight of units is 130 kg with a standard deviation of 10 kg. Assume normal distribution, how many units are expected to weight lees than 142kg.?	[5]	2	3,5
Q.5(a)	Explain the different methods of studying correlation analysis.	[5]	3	2
Q.5(b)	The following data relate to the age of 10 employees and the number of days which they reported sick in a month:	[5]	4	4, 5

Age	20	30	32	35	40	46	52	55	58	62
Sick days	11	12	10	13	14	16	15	17	18	19

Calculate Kart Pearson's coefficient of correlation.

:::::26/11/2024 E:::::