



Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2019

Bachelor in Computer Applications
Course Title: Probability and Statistics
Code No: CAST 202
Semester: III

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Candidates are required to answer the questions in their own words as far as possible.

Group B

Attempt any SIX questions.

[6×5 = 30]

2. Describe scope and limitation of Statistics.
3. Determine average wages from following data:

Wages	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70
No. of Worker	10	13	18	21	24	28	20	11	8

4. Calculate Karl Pearson's correlation coefficient from the following data:

Sales	43	41	36	34	50
Expenses	10	22	13	19	17

5. Estimate the marks in JAVA when the marks in Statistics is 65 by using following data:

Marks in Statistics	57	58	59	59	60	61	62	64
Marks in JAVA	77	78	75	78	82	82	79	81

6. Fit Binomial Distribution from the following data where $p = 0.5$

No. of heads	0	1	2	3	4
Frequency	28	62	46	20	4

7. How do you determine sample size in sampling? Explain briefly.
8. Write short notes on simple random sampling.

Group C

Attempt any TWO questions.

[2×10 =

20]

9. Student's age in the regular daytime BCA program and the morning time BCA program of a campus are described by two samples. If the homogeneity in age of the class is positive factor in learning make suggestion, with reason, which of two groups will be easier to teach?

Regular BCA program		Morning BCA program	
Age	No. of Students	Age	No. of Students
23	9	27	10
29	2	31	8
28	5	30	5
22	10	29	4
30	1	28	6
21	4	33	5
25	11	34	5
26	6	35	11
27	3	36	2
24	9	32	4
Total	60	Total	60

10. Given a normal distribution with mean 200 and s.d. 20, find the probability that

i) $P(X > 180)$

ii) $P(X < 220)$

iii) $P(160 < X < 240)$

iv) $P(X > 220)$

v) $P(X < 180 \text{ or } X > 220)$

vi) 10% of the values are less than what values of X?

11. The labor productivity indexes of Nepal are recorded as below:

Sector	Year		
	2015	2016	2017
Agriculture	100	125	138
Manufacturing	100	60	53
Community and Social service	100	89	80

Does the labor productivity index vary due to the;

i) difference in the sector

ii) difference in the time period?