ALLAMA IQBAL OPEN UNIVERSITY

Semester Terminal Exam Autumn 2020

Program /level:	BS	Maximum Marks	100
Title /Course Code	Understanding of Mathematics and Statistics (9417)	Pass marks	50

Instructions for Exams:

1. Attempt All Questions.
2. Write answers in your own words and avoid copying from an internet source or any book.
3. Be precise, avoid unnecessary details, answer to each question must be between 600-800 words.
4. Students are advised to upload their answer sheets/solutions on LMS portal as soon as they complete their answers and not to wait for 8:30 PM.
5. Submissions after due date & time will not be entertained. Attach undertaking with each course code which were allowed to attempt in Urdu.
6. If plagiarism found, Student may be declared fail.

Q. No.	Questions	Marks
Q.No.1	(a) The currents running through an electrical system are given by the following system of equations. The three currents, I_1, I_2, and I_3, are measured in amps. Solve the system to find the currents in this circuit. $I_1 + 2I_2 - I_3 = 0.425$ $3I_1 - I_2 + 2I_3 = 2.225$ $5I_1 + I_2 + 2I_3 = 3.775$ (b) Find the 15^{th} term of the sequence $x, 1, 2-x, 3-2x, \ldots$	**33**
Q.No.2	(a) $8 \times 10^n - 2$ is divisible by 6 for all positive values of n. (b) Explain the difference between the following terms with real life examples i) Statistic & Statistics ii) Population and Sample iii) Descriptive and inferential Statistics iv) Qualitative and Quantitative Variable.	**33**
Q.No.3	(a) Construct a frequency distribution table for the following data 25 32 45 8 24 42 22 12 9 15 26 35 23 41 47 18 44 37 27 46 38 24 43 46 10 21 36 45 22 18 35 26 30 45 24 40 25 32 45 8 24 42 22 12 9 15 26 35 23 41 47 18 44 37 27 46 38 24 43 46 10 21 36 45 22 18 35 26 30 45 24 40. Also calculate the Cumulative and Relative and percent cumulative frequency from the above data. 1. Construct a pie chart 2. Construct steam and leaf plot. 3. Construct histogram and Ogive curve (used Graph Paper) 4. Construct a bar diagram (used graph paper) (b) Determine the mean, GM, HM, mode, and the median for data in question No. 1. Interpret the results obtained.	**34**