MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MGU-UGP (HONOURS) SECOND SEMESTER EXAMINATION (2024 ADMISSION ONWARDS)

STATISTICS

MG2DSCSTA100 – Introduction to Statistical Modelling

Duration: 1Hour

Maximum: 30 Marks

MODEL QUESTION PAPER

PRACTICAL EXAMINATION

Answer any five questions. Each question carries 6 marks.

Solve the questions using spreadsheet in computer lab. The data in the question along with their answer must be written in the answer paper

- 6 unbiased coins are tossed together. Assuming binomial distribution, find the probability of getting (a) exactly 4 heads (b) 4 or more heads (c) at most 2 heads. [A] [4]
- 2. The following data show the number of seeds germinating in different sets. Fit a binomial distribution to the data and obtain the expected frequencies

Х	0	1	2	3	4	5
freq.	6	20	28	12	8	6
[An] [4]						

3. Between the hours 2 pm and 4 pm, the average number of phone calls received per minute coming into the switch board of a

company is 3. Assuming Poisson distribution, find the probability that during one particular minute, there will be (a) no phone calls (b) exactly 2 calls (c) at least 2 calls. [A] [4]

4. The following mistakes per page were observed in a book. Fit a Poisson distribution to this data and obtain the expected frequencies

X	0	1	2	3	4	5	6	7	8
freq.	56	156	132	92	37	22	3	1	1
[An] [4]									

[An] [4]

5. The variable X denotes the marks of students in a test which is normally distributed with mean 45 and SD 10. Find

(1) P(X > 60) (2) P(40 < X < 56) [A] [4]

6. The following data shows the marks of 250 students in an entrance examination. Fit a normal distribution to this data and obtain the expected frequencies.

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marks	60-65	65-70	70-75	75-80	80-85	85-90
freq.	21	45	99	64	16	5
[An][4]						

- 7. Generate 25 random numbers from continuous uniform distribution U (0,10). [An] [4]
- 8. Generate 12 random numbers from a binomial distribution with parameters n = 29, p = 0.65. [An] [4]