SKM'S JASHBHAI MAGANBHAI PATEL COLLEGE OF COMMERCE

Programme: S.Y.B.SC.I.T. (Sem-IV) **Course: Quantitative Techniques**

UNIFORM DISTRIBUTION

1. A uniform cubic die is rolled. If X is r.v. denoting a no. on upper most surface of die. Find the probability distribution function of X hence find its mean & variance.
2. A box contain 20 identical no. from 1 to 20.one counter is randomly selected from this box, if X is r.v. denoting a no. on counter. Find distribution of X. Also find mean & variance.
3. The distribution no. of words written per day by a certain writer over a period of one year shows uniform distribution(1000,2000).Find the prob. that on a randomly chosen day he wrote
   a) at most 1200 words b)In between 1250&1750 words.
4. The demand of cakes at the bakery shows rectangular distribution in (1000,1500).Find the demand would be: a) at least 1200kg b) between 1000kg & 1450kg c) at most 1400kg

BINOMIAL DISTRIBUTION

1. It is observed that 30% of the students appearing for a certain entrance test are science graduate. If 5 students are randomly selected from this group, what is prob. that among them
   a) Two are science graduate b) No one is science graduate c) At least two are science graduates.
2. In a certain factory 65% of workers are members of union. If sample of 7 workers is selected from this factory, find prob. that sample consist of
   a) At least one union member b) Exactly 4 union member
3. In a shooting competition the prob. Of a man hitting a target is 2/5.If he fires 3 times, find prob. of hitting a target : a) At least two times b) exactly one time.
4. In a class of 120 students there are 6 girls and rest are boys. A group of five student is selected randomly from this class. Find prob. of that group consist of : a) three girls b) three boys

POISSON DISTRIBUTON

1. It is observed that there are 150 misprints randomly distributed throughout the 200 pages of books. Find prob. that randomly selected page will contain
   a) No misprint b) At least two misprint
2. It is observed that 2% of bulbs made by a factory are defective. Find prob. that in a sample of 200 bulbs
   a) less than 2 bulb b) more than 3 bulbs are defectives.
3. It is observed that 1.2% of articles manufactured are defective. these articles are packed in a box containing 100 unit. Find how many boxes out of 500 will contain
   a) No defective b) At least two defective
4. The chance of a person aged 60 year will die within a year is 1.5%.Find prob. that out of ten such person at least nine will celebrate there next birthday.

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