Name:                                                ID:                                Serial:

Q 1: Consider the following out come for experiment:

| Outcome (x) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Probability p(x) | 0.2 | 0.25 | 0.15 | 0.10 | 0.30 |

   a. Let event A consist of the outcomes 1, 3, and 5 and event B consist of outcome 4 and 5. Find the probability the either A or B occurs.

   b. Find the mean and standard deviation of the outcome of the experiment.

Q 2: Mohammad is applying for 8 jobs and believes that he has in each case the same probability of 0.42 getting an offer. What is the probability of getting at most three offers?

Q 3: If the number of fish a person catches per hour at lake having a Poisson distribution with mean 2.8, find the probability that more than 3 fishes in first 12 hours in the coming day.

Q 4: In a class of 25 students, 18 living inside KFUPM. Six students are selected from this list, find the probability that at most 3 living outside KFUPM.

Q 5: A building contractor has an urgent electrical wiring job to complete on one of his sites. He usually subcontractors electrical work to one of two small firms. The probability subcontractor $A$ will be able to perform the job at such short notice is equal to 0.65, while for subcontractor $B$ the probability is equal to 0.7. The probability that neither subcontractor is available from this job is equal to 0.2.
   1. Calculate the probability that at least one of the two is available for this job.
   2. Calculate the probability that subcontractor $B$ is available given that the other subcontractor is unable to take on the job.