Sample question paper of Probability and Statistics

Q1. Number of ways of 5 boys and 3 girls can be arranged in a row so that no two girls are adjacent to each other is

A. 5p3
B. 6P3 X 5P5
C. 6P5 X 5P3
D. 8P3

Q2. A box contains 25 parts of which 10 are defective. Two parts are drawn at random from the box. The probability that both the parts drawn are good is

A. 7/20

B. 15/25

C. 14/25

D. 1/25

Q3. If X is a continuous random variable , normally distributed with mean = 10 and variance = 16 , given area under standard normal curve between z=0 and z=3 is 0.4987). Then the probability

P[X>22]

- A. 0.5
- B. 0.0013
- C. 0.4987
- D. 0.08

Q4. For small samples the assumption to test for equality of two population means

H0: $\mu_1 = \mu_2$ of two normal population with equal variance σ_2 is

- A. The samples drawn from the normal population are independent
- B. The samples drawn from the normal population are dependent
- C. The samples are not drawn from the population
- D. The two populations are not normal

Q5. For a queuing model (M/M/1): $(\infty/FCFS)$,

 λ = mean arrival rate of customers ,

 μ = mean service rate

then expected number of customers waiting in the queue is...

- A. Lq = $>^2/\mu$
- B. Lq = 2/((μ- ≻))
- C. Lq = $\times^2/(\mu(\mu \times))$
- D. Lq = $\lambda^2/((\mu \lambda))$