Q 21. Out of the following values which one is not possible in probability.

→ d] $P(X) = -0.5$

Q 30. What is moment generating function?

→ a) $M_X(t) = E(e^{tx})$

Q 27. The Autocorrelation is an --- function

→ a) even

Q 24. stochastic processes are

→ b] wide sense stationary process

Q 29. Binomial Distribution is a

→ b] Discrete distribution

Q 34. If two independent random process are of zero mean, then their correlation is

→ a] 0

Q 33. If $S(f)$ is the power spectral density of a real wide-sense stationary random process then which of the following is ALWAYS true?

→ b] $S(f) \geq 0$

Q 32. If E denotes the expection the varience of a random variable x is denoted as

→ b] $E(X^2) - (E(X))^2$

Q30] If in a table all possible values of a random variable are given their corresponding probabilities. then this table is called as

→ c] Probability distribution

Q29] A = A1 UA2 ---- UAn. where A1 -- An are mutually exclusive events then?

→ b] $\Sigma ni = 1 P(Ai)$

Q37] Binomial distribution is --

→ b] Not continuous.

Q35] if X and Y are random variables the E(X+Y) is equat to

→ a] [E(X) + E(Y)]

Q42] almost sure convergence implies that convergence in

→ b] Probability

Q40] E([Xn - X]^r) gives convergence in

→ b] rth mean

Q45] The auto correlation of a random process R(rr) at rr is equal to its

→ b] second moment

Q44]

→ c] 1, 2 & 3

Q47] convergence in probability implies that convergence in
→ c] distribution

Q50] If $A = A1 \cup A2 \cdots \cup An$, where A1 -- An are mutually exclusive events then
→ $\sum n.i = 1 P(Ai)$

*Q49] Law of large number gives an interpretation about an ---- of X as an avarage value.
→ expectation

Q20] A bag contains 15 balls of which x are red the probability of getting a red ball at random from the bag is
→ c] x/15

Q27] Normal Distribution is symmetric is about
→ b] mean

Q24] If R(τ) is the auto-correlation function of a real, wide-sense stationary random process, then which of the following is NOT true;
→ c] $R() = -R(-\tau)$

Q25] Gives $E(X) = 5$ and $E(Y) = -2$, then $E(X-Y)$ is
→ c] 7

Q22] convergence in rth mean implies that convergence in
→ b] Probability

Q23] Suppose, four coins are tossed. the value of a random variable {H} (No. of heads) is.
→ b] 0, 1, 2, 3, 4

Q27] X(t) is number of telephone calls receiving at switchboard in (0, t) t ∈ (0, ∞). Then x(t) is
→ b] discrete stochastic process discrete in time

Q28] what is the area under a conditional cumulative density function?
→ c] 1

Q25) If processes X(t) and y(t) are independent then their crosscorrelation is.
→ a] E(X).E(Y)

Q29] Normal Distribution is applied for
→ a] continuous Random Distribution

Q48] The shape of the normal curve depends on its
→ b] standard deviation

Q43] For random process x=6
→ c] 2 and 3

Q46] A white noise process will have
b] 2 and 3
→ ii) A constant variable
iii) Autocovarances that are constant

Q 25] Mutually exclusive events.

→ d] does not contain any common sample points

Q 41] If A ⊂ B and B ⊂ A then

→ c] P(A) = P(B)

Q 38] Let A and B be two events such that the occurance of A implies occurance of B. But not vice-versa. then the correct relation between P(a) and P(b) is

→ b] P(B) ≥ P(A)

Q 39] Let V be an vector space and let W be a subset of V. what does it mean when we say that W is closed under addition:

→ a] whenever x and y are in w, then x+y in w

Q 36] If a variable can certain integer values between two given points is called

→ b] Discrete random variable

~~Q 33] If S(Y) is the power spectran density of a real. wi~~

Q 31] If A is a perfect subset of B and P(a<Pb). then P(B-A) is equal to - -

→ P(b) - P(a)

Q 1] If state space S is discrete and time t is continuous then random process is called. -

→ c] discrete random process.

Q 26] Let Y and Z be the random variables obtained by sampling X(t) at t=2 and t=4 respectively. Let W = Y-Z. The varience of

Q47] What are the types of stochastic process.
→ d) All of the above
→ Continuous random process
Discrete random process

Q48) Gaussian process is completely specified by
→ a) means and variances

Q49) If X is A discrete random variable and f(x) is the probability of X, then the expected value of this random variable is equal to
op - Σf(x) 2) E[x + f(x)] 3) Σf(x)+x 4] Σxf(x)
→ d] Σxf(x)

Q41] Previous probabilities in Bayes Theorem that are changed with help of new available information are defined as
→ b] Posterior

Q35] The expected value of a random variable is its
→ a] mean

Q 33] The probability of getting an even number if a card is drawn from a box containing 12 identical cards numbered 1, 2, 3 ... 12 is
→ a) 1/2

Q 30) When do the conditional density function get converted into the marginally density functions?
→ b] only if random variables exhibit statistical independency

Q27] If x is a random variable ____

→ b) $P(X=x) = nCx\ p^x\ q^{(n-x)}$

Q26] Mean, Variance and third central moment of poisson distribution are

→ c] equal

Q24] which of the following is an accurate statement of the second axiom used in the axiomatic approach to probability

→ c] The sum of the probabilities of all the possible outcomes of an event must be equal to one.

Q12] The probability of getting a multiple of 5 if a two digit number is written down at random is

→ a] 1/5

Q11] If X and Y are independent, then their covariance is

→ a] zero

Q43] $E(X) = np^q$ is for which distribution

→ b] Binomial