Unit 5 - Week 4

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-02-26, 23:59 IST.

1) Select all the distributions which have their pdfs symmetric about mean? ***1 point***

- [ ] U[−1,1]
- [ ] Exp(λ)
- [ ] Normal
- [ ] Gamma

No, the answer is incorrect.
Score: 0
Accepted Answers:
U[−1,1]
Normal

2) Which of the following distribution can be used for modelling the distribution of "probability of any event" in an experiment? ***1 point***

- ( ) Beta2
- ( ) Exponential
- ( ) Gaussian
- ( ) Beta1

No, the answer is incorrect.
Score: 0
Accepted Answers:
Beta1

3) What of the following distributions is generally used for modelling the inter-event delay? ***1 point***

- ( ) Normal
- ( ) Uniform
- ( ) Exponential
- ( ) Beta1

No, the answer is incorrect.
Score: 0
Accepted Answers:
Exponential

4) Which of the following distribution will be obtained on summing five *Exp* (λ) distributions? ***1 point***

- ( ) Gamma(λ, 5)
- ( ) Poisson(λ)
- ( ) $N(5/\lambda, 25/\lambda^2)$
- ( ) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Gamma(λ, 5)

5) Suppose the weight of a new-born baby averages 8.5 lbs, with a standard deviation of 1.5 lbs. If weights are normally distributed, what fraction of babies are between 7 and 10 pounds? ***1 point***

- ( ) 48%
- ( ) 60%
- ( ) 68%
- ( ) 56%

No, the answer is incorrect.
Score: 0
Accepted Answers:
68%

6) Let X be a random variable distributed as Exp(1). What is the value of $P(X > (s + t) \mid X > t)$? ***1 point***

- ( ) $P(X > t)$
- ( ) $P(X > s)$
- ( ) $P(X > s + t)$
- ( ) None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
P(X > s)

7) Select all the statements which are true for two given density functions *f* and *g*. ***1 point***

- [ ] Convex combination of *f* and *g* is a valid density function
- [ ] *f g* is a valid density function
- [ ] *f g* is not necessarily a valid density function
- [ ] Convex combination of *f* and *g* is not necessarily a valid density function

No, the answer is incorrect.
Score: 0
Accepted Answers:
Convex combination of f and g is a valid density function
f g is not necessarily a valid density function

8) Time span of an battery is given by an exponential distribution with mean survival time as 1 day. A torch has two battery slots and we are provided with exactly two batteries. To power the torch, we need both slots to be filled and at least one battery should be working. What is the probability that we can use torch for two days? ***1 point***

- ( ) $2e^{-2}$
- ( ) $2e^{-2} - e^{-4}$
- ( ) e^{-2}
- ( ) e^{-4}

No, the answer is incorrect.
Score: 0
Accepted Answers:
$2e^{-2} - e^{-4}$

9) Which distribution perfectly describes the total time span of the torch in the description of above question? ***1 point***

- ( ) Normal
- ( ) Exponential
- ( ) Gamma
- ( ) None of the Above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Gamma

10) We have three devices D1, D2 and D3 having lifespans distributed as N(45,16), N(45,4) and N(45,9) respectively. We need a device which can be used for 45 hours, which one should we choose? ***1 point***

- ( ) D2
- ( ) Any of the three devices
- ( ) D3
- ( ) D1

No, the answer is incorrect.
Score: 0
Accepted Answers:
Any of the three devices