Statistics MCQs – Continuous Distributions Part 6

101. The time it takes a technician to fix a computer is exponentially distributed with a mean of 10 minutes. What is the variance of the amount of time it takes a technician to fix a computer?

a. 0.01

b. 0.1

c. 100

d. 10

e. 20

Answer: C

102. The time it takes a technician to fix a computer is exponentially distributed with a mean of 10 minutes. What is the standard deviation of the amount of time it takes a technician to fix a computer?

a. 0.01

b. 0.1

c. 100

d. 10

e. 20

Answer: D

103. The time it takes a technician to fix a computer is exponentially distributed with a mean of 20 minutes. What is the standard deviation of the amount of time it takes a technician to fix a computer?

a. 0.05

b. 15

c. 100

d. 10

e. 20

Answer: E

104. Flaws occur in telephone cabling at an average rate of 4.4 flaws per 1km of cable. What is the expected distance between flaws (in km) ?

a. 4.4

b. 3.2

c. 0.227

d. 0.313

e. 2.2

Answer: C

105. Flaws occur in telephone cabling at an average rate of 3.2 flaws per 1km of cable. What is the expected distance between flaws (in km) ?

a. 4.4

b. 3.2

c. 0.227

d. 0.313

e. 2.2

Answer: D

106. Flaws occur in telephone cabling at an average rate of 4.4 flaws per 1km of cable. What is the variance of the distance between flaws?

a. 0.052

b. 0.098

c. 19.36

d. 10.24

e. 2.2

Answer: A

107. Flaws occur in telephone cabling at an average rate of 3.2 flaws per 1km of cable. What is the variance of the distance between flaws?

a. 0.052

b. 0.098

c. 19.36

d. 10.24

e. 2.2

Answer: B

108. Cars arrive at a tollgate at an average rate of 10 cars per hour. What is the mean time between arrivals (in minutes) ?

a. 6 minutes

b. 0.1 minutes

c. 3 minutes

d. 0.05 minutes

e. 4 minutes

Answer: A

109. Cars arrive at a tollgate at an average rate of 20 cars per hour. What is the mean time between arrivals (in minutes) ?

a. 6 minutes

b. 0.1 minutes

c. 3 minutes

d. 0.05 minutes

e. 4 minutes

Answer: C

110. Cars arrive at a tollgate at an average rate of 15 cars per hour. What is the mean time between arrivals (in minutes) ?

a. 6 minutes

b. 0.1 minutes

c. 3 minutes

d. 0.05 minutes

e. 4 minutes

Answer: E

111. The convenor of a first-year statistics programme at a certain university receives, on average, 5 emails per 30 minutes. What is the mean time between the arrival of emails in her inbox (in minutes) ?

a. 30 minutes

b. 0.167 minutes

c. 6 minutes

d. 0.5 minutes

e. 5 minutes

Answer: C

112. The convenor of a first-year statistics programme at a certain university receives, on average, 5 emails per 30 minutes. What is the variance of the time between the arrival of emails in her inbox?

a. 36 minutes

b. 36 minutes^2

c. 6 minutes

d. 6 minutes^2

e. 0.028 minutes^2

Answer: B

113. Calls are received by the switchboard of a large company at an average rate of 10 calls every 15 minutes. What is the mean time between calls (in minutes) ?

a. 2 minutes

b. 0.67 minutes

c. 15 minutes

d. 10 minutes

e. 1.5 minutes

Answer: E

114. You and I own a company called Deliveries Inc. We have a large fleet of delivery trucks. On average we have 10 breakdowns per 5 day working week. What is the expected time (in days) between breakdowns?

a. 1 day

b. 0.5 day

c. 2 days

d. 0.75 day

e. 5 days

Answer: B

115. You own a very old car which breaks down, on average, 3 times a year. What is the mean time between break downs, in months, of your car?

a. 3 months

b. 0.25 months

c. 12 months

d. 4 months

e. 0.5 months

Answer: D

116. You own a very old car which breaks down, on average, 3 times a year. What is the standard deviation of the time between break downs, in months, of your car?

a. 3 months

b. 0.25 months

c. 12 months

d. 4 months

e. 0.5 months

Answer: D

117. The diameters of oranges found in the orchard of an orange farm follow a normal distribution with a mean of 120mm and a standard deviation of 10mm. What proportion of oranges in the orchard have a diameter between 110mm and 130mm?

a. 0.6826

b. 0.8186

c. 0.3829

d. 0.4332

e. 0.2858

Answer: A

118. The diameters of oranges found in the orchard of an orange farm follow a normal distribution with a mean of 120mm and a standard deviation of 10mm. What proportion of oranges in the orchard have a diameter between 110mm and 140mm?

a. 0.6826

b. 0.8186

c. 0.3829

d. 0.4332

e. 0.2858

Answer: B

119. The diameters of oranges found in the orchard of an orange farm follow a normal distribution with a mean of 120mm and a standard deviation of 10mm. What proportion of oranges in the orchard have a diameter between 115mm and 125mm?

a. 0.6826

b. 0.8186

c. 0.3829

d. 0.4332

e. 0.2858

Answer: C

120. The diameters of oranges found in the orchard of an orange farm follow a normal distribution with a mean of 120mm and a standard deviation of 10mm. What proportion of oranges in the orchard have a diameter between 105mm and 120mm?

a. 0.6826

b. 0.8186

c. 0.3829

d. 0.4332

e. 0.2858

Answer: D