Code No: 56066 **Set No. 1**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
PROBABILITY AND STATISTICS [BT]
Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1 Average no. of customers in the system is. [ ]
a) $\frac{\lambda}{\mu(\mu-\lambda)}$ b) $\frac{1}{\mu(\mu-\lambda)}$ c) $\frac{1}{\mu-\lambda}$ d) $\frac{\lambda}{\mu-\lambda}$

2. The traffic intensity of a queue is [ ]
a) $\frac{\lambda}{\mu}$ b) $\frac{\mu}{\lambda}$ c) $\lambda - \mu$ d) $\lambda + \mu$

3. At a box office window customer arrive at a rate of 30 per hour. The time required to serve a customer is 90 seconds. Then the expected waiting time in the queue is_____ mins [ ]
a) 3.5 b) 4.5 c) 5.5 d) 6.5

4. If we can assert with 95 % that the maximum error is 1.2 and the standard deviation of population is 10, then the sample size is _____ [ ]
a) 265 b) 266 c) 267 d) 268

5. Type – I error is _____ [ ]
a) Accept H_o, if Ho is true b) Accept H_o, if Ho is false
c) Reject H_o, if Ho is true d) Reject H_o, if Ho is false

6. The critical value for one-tail test at 5 % level of significance is __ [ ]
a) 2.33 b) 1.96 c) 1.645 d) 1.28

7. A random sample of 400 products contains 52 defective items. Then standard error of the proportion is [ ]
a) 0.168 b) 0.0168 c) 1.016 d) 0.0016

8. If S= 0.044, n = 10 and $t_{\alpha/2}$ = 2.26, Then the maximum error is ___ [ ]
a) 0.021 b) 0.031 c) 0.041 d) 0.051

9. If the sizes of two samples are 16 and 13 and σ_1^2 = 625 and σ_2^2 = 1024. Then F = [ ]
a) 1.66 b) 1.74 c) 2.1 d) 4.23

10. Probability that there are more than (or) equal to 10 customers in the system, if arrival rate is 3 per hour, service rate is 5 per hour is [ ]
a) $\left(\frac{3}{5}\right)^{11}$ b) $\left(\frac{3}{5}\right)^{9}$ c) $\left(\frac{3}{5}\right)^{10}$ d) $1 - \frac{3}{5}$

Cont.....2

II Fill in the blanks

11. Bayesian interval for μ is given by _____

12. In a sample of 500 people in AP 300 are rice eaters. The maximum error with 99 % confidence is _____

13. The test statistic for difference of means of two large two different samples taken from normal populations is _____

14. The unbiased estimator of a population mean μ is _____

15. The confidence interval for mean of large random sample is _____

16. Expected waiting time of customer in a system is _____

17. Suppose the inter arrival time is 15 minutes and inter service time is 10 minutes. Then the traffic intensity is_____

18. The shape of t – distribution is similar to that of _____ distribution

19. When confidence (1-α), maximum error 'E' and population standard deviation (σ) is known then the sample size n is given by _____

20. If the customer leaves the counter due to some reason, then it is _____

-oOo-

Code No: 56066 **Set No. 2**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
PROBABILITY AND STATISTICS [BT]
Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. If we can assert with 95 % that the maximum error is 1.2 and the standard deviation of population is 10, then the sample size is _____ [ ]
   a) 265 b) 266 c) 267 d) 268

2. Type – I error is _____ [ ]
   a) Accept H_o, if Ho is true b) Accept H_o, if Ho is false
   c) Reject H_o, if Ho is true d) Reject H_o, if Ho is false

3. The critical value for one-tail test at 5 % level of significance is __ [ ]
   a) 2.33 b) 1.96 c) 1.645 d) 1.28

4. A random sample of 400 products contains 52 defective items. Then standard error of the proportion is [ ]
   a) 0.168 b) 0.0168 c) 1.016 d) 0.0016

5. If S= 0.044, n = 10 and $t_{\alpha/2}$ = 2.26, Then the maximum error is ___ [ ]
   a) 0.021 b) 0.031 c) 0.041 d) 0.051

6. If the sizes of two samples are 16 and 13 and σ_1^2 = 625 and σ_2^2 = 1024. Then F = [ ]
   a) 1.66 b) 1.74 c) 2.1 d) 4.23

7. Probability that there are more than (or) equal to 10 customers in the system, if arrival rate is 3 per hour, service rate is 5 per hour is [ ]
   a) $\left(\frac{3}{5}\right)^{11}$ b) $\left(\frac{3}{5}\right)^{9}$ c) $\left(\frac{3}{5}\right)^{10}$ d) $1 - \frac{3}{5}$

8 Average no. of customers in the system is. [ ]
   a) $\frac{\lambda}{\mu(\mu-\lambda)}$ b) $\frac{1}{\mu(\mu-\lambda)}$ c) $\frac{1}{\mu-\lambda}$ d) $\frac{\lambda}{\mu-\lambda}$

9. The traffic intensity of a queue is [ ]
   a) $\frac{\lambda}{\mu}$ b) $\frac{\mu}{\lambda}$ c) $\lambda - \mu$ d) $\lambda + \mu$

10. At a box office window customer arrive at a rate of 30 per hour. The time required to serve a customer is 90 seconds. Then the expected waiting time in the queue is_____ mins [ ]
    a) 3.5 b) 4.5 c) 5.5 d) 6.5

Cont.....2

II Fill in the blanks

11. The unbiased estimator of a population mean μ is _____

12. The confidence interval for mean of large random sample is _____

13. Expected waiting time of customer in a system is _____

14. Suppose the inter arrival time is 15 minutes and inter service time is 10 minutes. Then the traffic intensity is_____

15. The shape of t – distribution is similar to that of _____ distribution

16. When confidence (1-α), maximum error 'E' and population standard deviation (σ) is known then the sample size n is given by _____

17. If the customer leaves the counter due to some reason, then it is _____

18. Bayesian interval for μ is given by _____

19. In a sample of 500 people in AP 300 are rice eaters. The maximum error with 99 % confidence is _____

20. The test statistic for difference of means of two large two different samples taken from normal populations is _____

-oOo-

Code No: 56066 **Set No. 3**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III B.Tech. II Sem., II Mid-Term Examinations, April – 2014

PROBABILITY AND STATISTICS [BT]

Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. The critical value for one-tail test at 5 % level of significance is __ [ ]
   a) 2.33 b) 1.96 c) 1.645 d) 1.28

2. A random sample of 400 products contains 52 defective items. Then standard error of the proportion is [ ]
   a) 0.168 b) 0.0168 c) 1.016 d) 0.0016

3. If S= 0.044, n = 10 and $t_{\alpha/2}$ = 2.26, Then the maximum error is ___ [ ]
   a) 0.021 b) 0.031 c) 0.041 d) 0.051

4. If the sizes of two samples are 16 and 13 and σ_1^2 = 625 and σ_2^2 = 1024. Then F = [ ]
   a) 1.66 b) 1.74 c) 2.1 d) 4.23

5. Probability that there are more than (or) equal to 10 customers in the system, if arrival rate is 3 per hour, service rate is 5 per hour is [ ]
   a) $\left(\frac{3}{5}\right)^{11}$ b) $\left(\frac{3}{5}\right)^{9}$ c) $\left(\frac{3}{5}\right)^{10}$ d) $1 - \frac{3}{5}$

6 Average no. of customers in the system is. [ ]
   a) $\frac{\lambda}{\mu(\mu-\lambda)}$ b) $\frac{1}{\mu(\mu-\lambda)}$ c) $\frac{1}{\mu-\lambda}$ d) $\frac{\lambda}{\mu-\lambda}$

7. The traffic intensity of a queue is [ ]
   a) $\frac{\lambda}{\mu}$ b) $\frac{\mu}{\lambda}$ c) $\lambda - \mu$ d) $\lambda + \mu$

8. At a box office window customer arrive at a rate of 30 per hour. The time required to serve a customer is 90 seconds. Then the expected waiting time in the queue is_____ mins [ ]
   a) 3.5 b) 4.5 c) 5.5 d) 6.5

9. If we can assert with 95 % that the maximum error is 1.2 and the standard deviation of population is 10, then the sample size is _____ [ ]
   a) 265 b) 266 c) 267 d) 268

10. Type – I error is _____ [ ]
    a) Accept H_o, if Ho is true b) Accept H_o, if Ho is false
    c) Reject H_o, if Ho is true d) Reject H_o, if Ho is false

Cont.....2

II Fill in the blanks

11. Expected waiting time of customer in a system is _____

12. Suppose the inter arrival time is 15 minutes and inter service time is 10 minutes. Then the traffic intensity is_____

13. The shape of t – distribution is similar to that of _____ distribution

14. When confidence (1-α), maximum error 'E' and population standard deviation (σ) is known then the sample size n is given by _____

15. If the customer leaves the counter due to some reason, then it is _____

16. Bayesian interval for μ is given by _____

17. In a sample of 500 people in AP 300 are rice eaters. The maximum error with 99 % confidence is _____

18. The test statistic for difference of means of two large two different samples taken from normal populations is _____

19. The unbiased estimator of a population mean μ is _____

20. The confidence interval for mean of large random sample is _____

-oOo-

Code No: 56066 **Set No. 4**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
PROBABILITY AND STATISTICS [BT]
Objective Exam

Name: _____ Hall Ticket No. | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I Choose the correct alternative:

1. If S= 0.044, n = 10 and $t_{\alpha/2}$ = 2.26, Then the maximum error is ___ [ ]
   a) 0.021 b) 0.031 c) 0.041 d) 0.051

2. If the sizes of two samples are 16 and 13 and σ_1^2 = 625 and σ_2^2 = 1024. Then F = [ ]
   a) 1.66 b) 1.74 c) 2.1 d) 4.23

3. Probability that there are more than (or) equal to 10 customers in the system, if arrival rate is 3 per hour, service rate is 5 per hour is [ ]
   a) $\left(\frac{3}{5}\right)^{11}$ b) $\left(\frac{3}{5}\right)^{9}$ c) $\left(\frac{3}{5}\right)^{10}$ d) $1 - \frac{3}{5}$

4 Average no. of customers in the system is. [ ]
   a) $\frac{\lambda}{\mu(\mu-\lambda)}$ b) $\frac{1}{\mu(\mu-\lambda)}$ c) $\frac{1}{\mu-\lambda}$ d) $\frac{\lambda}{\mu-\lambda}$

5. The traffic intensity of a queue is [ ]
   a) $\frac{\lambda}{\mu}$ b) $\frac{\mu}{\lambda}$ c) $\lambda - \mu$ d) $\lambda + \mu$

6. At a box office window customer arrive at a rate of 30 per hour. The time required to serve a customer is 90 seconds. Then the expected waiting time in the queue is_____ mins [ ]
   a) 3.5 b) 4.5 c) 5.5 d) 6.5

7. If we can assert with 95 % that the maximum error is 1.2 and the standard deviation of population is 10, then the sample size is _____ [ ]
   a) 265 b) 266 c) 267 d) 268

8. Type – I error is _____ [ ]
   a) Accept H_o, if Ho is true b) Accept H_o, if Ho is false
   c) Reject H_o, if Ho is true d) Reject H_o, if Ho is false

9. The critical value for one-tail test at 5 % level of significance is __ [ ]
   a) 2.33 b) 1.96 c) 1.645 d) 1.28

10. A random sample of 400 products contains 52 defective items. Then standard error of the proportion is [ ]
    a) 0.168 b) 0.0168 c) 1.016 d) 0.0016

Cont.....2

II Fill in the blanks

11. The shape of t – distribution is similar to that of _____ distribution

12. When confidence (1-α), maximum error 'E' and population standard deviation (σ) is known then the sample size n is given by _____

13. If the customer leaves the counter due to some reason, then it is _____

14. Bayesian interval for μ is given by _____

15. In a sample of 500 people in AP 300 are rice eaters. The maximum error with 99 % confidence is _____

16. The test statistic for difference of means of two large two different samples taken from normal populations is _____

17. The unbiased estimator of a population mean μ is _____

18. The confidence interval for mean of large random sample is _____

19. Expected waiting time of customer in a system is _____

20. Suppose the inter arrival time is 15 minutes and inter service time is 10 minutes. Then the traffic intensity is_____

-oOo-