**" اللهم لا سهل إلا ما جعلته سهلا علينا "**

**جامعة الملك سعود الاختبار النهائي**

 **كلية العلوم الفصل الثاني 1430 / 1431**

**قسم الإحصاء وبحوث العمليات مقرر 145 احص**

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|  **الاثنين 9 / 7 / 1431 هـ الساعة : 9 - 11** |

**اسم الطالبة : -------------------------------------------------------------------------------------**

**رقم الطالبة : --------------------------------------------------------------------------------------**

**رقم الشعبة : ----------------------------- رقم التسلسل : -----------------------------------------**

**أستاذة المقرر : -----------------------------------------------------------------------------------**

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**For each question, write the letter in the space given in the following table**

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| ***Question*** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| ***Answer*** |  |  |  |  |  |  |  |  |  |  |

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| ***Question*** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
| ***Answer*** |  |  |  |  |  |  |  |  |  |  |

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| ***Question*** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| ***Answer*** |  |  |  |  |  |  |  |  |  |  |

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| ***Question*** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** |
| ***Answer*** |  |  |  |  |  |  |  |  |  |  |

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| ***Question*** | **41** | **42** | **43** | **44** | **45** | **46** | **47** | **48** | **49** | **50** |
| ***Answer*** |  |  |  |  |  |  |  |  |  |  |

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| ***Question*** | **51** | **52** | **53** |
| ***Answer*** |  |  |  |

 **Good Luck**

**الأسئلة المتعلقة بجزئية الفاينال تبدأ من هنا**

**Question ( 5 ) :**

[A] In a sample of 13 male smokers, the mean gastric hydrochloric acid (حمض معين) was 2.23. Assume a normal distribution with a standard deviation of 1.35 , find a 90% confidence interval for the gastric hydrochloric acid.

32) The value of α is

(a) 0.95 (b) 0.05 (c) 0.9 (d) 0.1 (e) none of these

33) The rule for the confidence interval use is

(a)  (b)  (c)  (d) 

34) the value of the confidence interval for mean is

(a) (1.3985, 3.061) (b) (2.06, 2.40) (c) (2.15, 2.49)

 (d) (1.614, 2.846) (e)none of these

[B] In a sample of 15 pregnant women , the mean hemoglobin was 10.9 g/dl with standard deviation 0.7 .Assume that the population is normally distributed. Use

α = 0.10. Test if the average level is different from 12 .

35) The needed assumptions are

1. Normal ,σ known (b) Normal , σ unknown and n small

(c) Not normal ,σ known and n small (d) Normal , σ unknown and n large

(e) Not normal ,σ known and n large.

36) The Hypothesis is

1. H0: μ=12 (b) H0: μ≠12 (c) H0: μ=12 (d) H0: μ<12

HA: μ>12 HA: μ=12 HA: μ≠12 HA: μ>12

37)The test statistic is

 (a) (b)  (c)  (d) 

38) The value of test statistic (above) is

1. -6.086 (b) -5.821 (c)2.053 (d) 6.086 (e) -6.0

39) The decision rule is

1. Reject H0 if Z<-1.645 or Z >1.645 (b) Reject H0 if Z < -1.25

(c)Reject H0 if T<-1.345 or T >1.345 (d) Reject H0 if T > 1.345

(d) Reject H0 if T<-1.7613 or T >1.7613

40) The decision is

1. Accept H0 (b) reject H0 (c) can’t say

[C] Scorpion venom (العقرب السام)affects both the heart and nervous systems. In a sample of 86 patients with scorpion bites, If 65.1% had cardiovascular complications (مضاعفات القلب والأوعية الدموية). To get 95% confident interval for the proportion of scorpion bites patients we need

41)The value of sample proportion is

1. 65.1 (b) 0.05 (c)0.651 (d) 0.95 (e) 0.025

42) The 95% confident interval for the proportion of scorpion bites patients is

1. ( 0.1007, 0.332) (b) (0.5503,0.7517) (c) (0.456,0.693)

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**Question (6 ):**

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47) If P (T(18) > t) = 0.975, then t =

(a)2.1009 (b) -2.1009 (c)0.025 (d) -0.025 (e) none of these

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49) The t- distribution is depends on:

1. Its variance
2. Its mean
3. Degrees of freedom (n-1)
4. The standard normal distribution
5. None of the above

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50) Comparing t- distribution with standard normal distribution, we get:

1. The t-distribution is more peaked in the center and has higher tails.
2. The t-distribution is less peaked in the center and has higher tails.
3. The t-distribution is less peaked in the center and has lower tails.
4. The t-distribution is more peaked in the center and has lowerr tails.
5. None of the above

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53) In we have the hypothesis H0:μ=10 , HA: μ>10 . where P-value = 0.01, then your decision is ( let α= 0.02)

1. Accept H0 (b) reject H0 (c) can’t say

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 **End of the questions**