

Name : Fajr Mobeen

Lecturer : Wajeeha Amin

ID # : 14544

4th Semester : BBA

### Part A

## Objectives

1. A
2. B
3. A
4. B
5. B
6. D
7. A
8. 5%
9. Null
10. T-test “t-statistics”

### Part B

#### Question # 1

a)

1. Ho : μ = 100

 H1 : μ  **≠ 100**

1. Ho : π = 0.65

 H1 : π **> 0.65**

1. Ho : μ = 4.5

 H1 : μ  **≠ 4.5**

**b) 1. Z < 1.57 so reject Ho**

**-1.57**

**2. Z > 4.9 and Z < -4.9 so accept Ho**

**-4.9 4.9**

**3. Z > 1.8 so accept Ho**

1.8

### Question 2

#### DATA : n = 18

#### 

#### σ = 1.22

#### σ 2 = 1.4884

#### 

#### For 80% C.I

α =  0.20

α/2 = 0.1

1 – α/2 = 0.9

n-1 = 17

for α/2 from table = 24.769

for 1- α/2 = 10.085

using formula and putting values

final answer 1.02155 < σ 2 < 2.5089

#### for 98%

α =  0.20

α/2 = 0.01

1. α/2 = 0. 99

from table 0.01 = 33.409

from table 0.99 = 6.408

using formula putting values

0.7573 < σ 2 ¸ < 3.948 ans

b) 1) n = 12 , α= 1%

chi square = n-1 =11

α = 1 = 0.01

α/2 = 0.01 / 2 = 0.005

from table 26.757 X2

t value = α/2 = 0.005 so t value = 3.1058

2) f value

N1 = 24, n2 = 5, α = 0.01

α/2 = 0.05

v1= 24, v2 = 4 so f α/2 = 20.03

v2=24, v1 = 4 so f α/2 = 4.84

3 ) Z value -2.22 = 0.0132

##### Question 3

1. π = 0.80

n = 42

p = 28/42 = 0.6666667

α = 10

step 1 ) Ho : π = 0.80

H1 : π < 0.80

Step 2) α = 0.1

* + 1. = 0.9

From table 0.9 = 1.29

Step 3 ) Using Z test

Step 4 )

-1.29

Step 5 ) using Z formula and Z = -2.159

As value is 2.16 is present in rejection region so we will reject Ho and Accept H1 i.e proportion and executivies is in fact less than 80%

Now P value

P ( Z < -2.159)

( Z < -2.16)

From table P ( Z < -2.16) 0.9846

P value > α

0.9846 > 0.1 so we accept Ho and reject H1

##### Question # 4

a ) μ 1000 kpa

n= 8

X bar = 980 kpa

S = 9 kpa

Α = 0.01

Step 1 . Ho : μ = 1000 kpa

H1 : μ < 1000 kpa

Step 2 α = 0.01

* + 1. = 0.99

From table 0.99 = 2.33

T < -2.33

Step 3 t test is used

Step 4

2.33

Step 5 using t formula and putting values

-20/3.181980515 = -6.285

Value -6.29 Is less than -2.33 so we reject Ho and accept H1 and i.e population mean contest is less than 1000 kpa , -6.29 lies in rejection region

B ) P value = 0.002

α **= 0.01**

**p value <** α

0.002 ¸0.01

So we reject Ho and accept H1