QPC: RJ19BTECH135 AR 19 Reg. No

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester – Regular) Examinations, June – 2021

BPCBT4020 – Biostatistics

(Biotechnology)

Time: 2 hrs Maximum: 50 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions) **(1 x 10 = 10 Marks)**

Q.1. Answer *ALL* questions

a. The basic statistical indicator is:

(i) Mode (ii) Median

(iii) Variance (iv) Mean

b. The median of a series of numerical values is:

(i) Equal to the average (ii) A graph or hart

(iii) A number (iv) A frequency table

c. When conducting an ANOVA, FDATA will always fall within what range?

(i) between 0 and infinity (ii) between 0 and 1

(iii) between 1 and infinity (iv) between negative infinity and infinity

d. In ANOVA with 4 groups and a total sample size of 44, the computed F statistic is 2.33 In this case, the p-value is

(i) less than 0.05 (ii) cannot tell - it depends on what the SSE

(iii) exactly 0.05 (iv) greater than 0.05

e. As variability due to chance decreases, the value of F will

(i) Decrease (ii) Stay The Same

(iii) Increase (iv) Can't Tell From The Given Information

f. Which of the following tests are parametric tests:

(i) Wilcoxon (ii) ANOVA

(iii) Data (iv) Kruskal-Wallis

g. What are the chances that no two boys are sitting together for a photograph if there are 5 girls and 2 boys?

(i) 1/21 (ii) 5/7

(iii) 2/7 (iv) 4/7

h. A sampling distribution is the probability distribution for which one of the following

(i) A sample (ii) A population

(iii) A sample statistic (iv) A population parameter

i. Which one of these variables is a continuous random variable?

(i) The time it takes a randomly selected student to complete an exam (ii) The number of tattoos a randomly selected person has

(iii) The number of women taller than 68 inches in a random sample of 5women (iv) The number of correct guesses on amultiple choice test.

j. A result is called "statistically significant" whenever

(i) The alternative hypothesis is true (ii) The null hypothesis is true.

(iii) The p-value is less or equal to the significance level. (iv) The p-value is larger than the significance level.

PART – B: (Short Answer Questions) **(2 x 5 = 10 Marks)**

Q.2. Answer ***ALL*** questions	[CO#]	[PO#]
a. Define primary data.	1	1
b. What is the possibility of having 53 Thursdays in a non-leap year?	2	1
c. What is standard error	3	1
d. Write about Pooled t-test	3	1
e. Define p-value	4	1

PART – C: (Long Answer Questions) **(6 x 5 = 30 Marks)**

Answer ***ANY FIVE*** questions	Marks	CO#	PO#
3. Write about the measures of central tendency using the Median.	(6)	1	1
4. Discuss the graphical and diagrammatic representation of numerical data	(6)	1	1
5. Write on correlation and regression	(6)	2	1
6. Explain the addition and multiplication theorems of probability	(6)	2	1
7. Hemoglobin percent (g/100ml) of liver fed *Wallago attu* was recorded as 24, 23, 21, 25, 17, 18, 19, 20, 22. Calculate the standard deviation.	(6)	3	1
8. Write about Quartiles	(6)	3	1
9. Define ANOVA and it's application	(6)	4	1
10. Discuss the properties of student's t, test and use	(6)	4	1

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