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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (BT) (2012 to 2017) (Sem.-4)

BIOSTATISTICS

Subject Code : BTBT-401

M.Code : 55084

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**Write briefly :**

1. Histogram and scatter diagram
2. Mann-Whitney test
3. Skewness and Kurtosis
4. Decile and percentile
5. Type I and Type II error
6. Normal curve
7. Spearman rank Correlation
8. Frequency distribution
9. Standard deviation and standard error
10. Poisson distribution

SECTION-B

11. What is binomial distribution? What are the chances of getting any combination, i.e., 2 boys, 1 girl or 1 boy, 2 girls or three boys or three girls when the number of pregnancies is 3? Probability of getting a boy or a girl is found to be 0.5

12. The following are the number of babies born during a year in 40 community hospitals. From these data construct a frequency distribution, cumulative frequency, relative frequency and draw a histogram for the constructed table.

50 51 21 57 27 61 70 49 58 30 28 41 42 44 29
 25 43 20 23 33 45 25 30 67 50 55 45 29 32 51
 67 73 55 52 37 30 42 68 55 36

13. What is hypothesis testing? Briefly describe the importance of statistical hypotheses.
14. Briefly describe the differences between correlation and regression.
15. The body surface area of 15 children are : 196, 185, 114, 101, 217, 135, 184, 122, 233, 227, 336, 198, 253, 148 and 109. Calculate variation, standard deviation, standard error and coefficient of variation for this data

SECTION-C

16. Find out the regression equation of Y on X for the heights of sons and fathers for the data given below.

Fathers (X) 65, 63, 67, 64, 68, 62, 70, 66, 68, 67, 69, 71

Sons (Y) 68, 66, 68, 65, 69, 66, 68, 65, 71, 67, 68, 70

17. Students were given different drug treatments before revising for their exams. Some were given a memory drug, some a placebo drug and some no treatment. The exam scores (%) are shown below for the three different groups : Carry out a one-way ANOVA to test the hypothesis that the treatments will have different effects.

Memory Drug	Placebo	No treatment
70	37	3
77	43	10
83	50	17
90	57	23
97	63	30

18. Is there any association of age and death in patients who were treated for tuberculosis? Details of treatment of patients are given below (use χ^2 test).

Age	No. of patients under treatment		
	Dead	Recovered	Total
Young	4	25	29
Older	23	44	67
Total	27	69	96

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student..