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Exam.Code:1029
Sub. Code: 7855

1128

M. Tech. (Material Science and Technology)
First Semester
MST-105: Research Methodology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following briefly:-
- What is the definition of research methodology as pronounced by Woody and Clifford?
 - What is the criteria applied to select a good research problem
 - What kind of research design supports the descriptive research?
 - Why random sampling is most preferred
 - List merits and demerits of participative observations. (5x2)

UNIT - I

- II. a) Discuss the stepwise process to define a research problem.
b) Discuss the characteristics of a research design for descriptive or diagnostic research. (5,5)
- III. What do you understand by sampling. Give Its significance. What is the criteria followed in the selection of a sampling procedure. (10)
- IV. Discuss various categories of researcher giving distinctive features of each. (10)

UNIT - II

- V. What is data processing and why is it needed. Discuss different steps used in data processing. (10)
- VI. a) The number of runs scored by cricketers A and B during a test series consisting of 5 test matches is shown below of each of the ten innings. Make a comparative study of their batting performance.
A: 5, 26, 97, 76, 112, 89, 6, 108, 24 16
B: 51, 47, 36, 60, 58, 39, 44, 42, 71, 50

P.T.O.

(2)

b) The age distribution of 4488 Bengali males is given below. Compute the mean age of Bengali males.

Age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	1069	841	740	641	522	370	213	80	11	1

- VII. A group of seven week old chickens reared on a high protein diet weigh 12, 15, 11, 16, 14, 14 and 16 ounces; a second group of five chickens similarly treated except that they received low protein diet weigh 8, 10, 14, 10 and 13 ounces. Test at 5% level whether there is significant evidence that additional protein has increased the weight of chickens. Use assumed mean $(A_1)=10$ for sample of 7 and assumed mean $(A_2)=8$ for sample of 5 chickens in your calculations. (10)

$x-x-x$