Reg. No.....

SECOND YEAR B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2009

Statistics (Subsidiary)

Paper III—PRACTICAL

(2004 and admissions)

[For Regular Students]

Time : Three Hours **Maximum : 60 Marks**

Answer any* six *questions. Each question carries* 10 *marks.
***Maximum marks that can be scored is* 60.**
Use of calculators and Statistical tables allowed.

1. Find out mean deviation from mean from the following data :

Age in years	*No. of mean*
0-10	20
10-20	25
20-30	32
30-40	40
40-50	42
50-60	35
60-70	10
70-80	8

(10 marks)

2. From the following data, calculate β_1 and β_2

xi	f_i
0	5
1	10
2	15
3	20
4	25
5	20
6	15
7	10
8	5

(10 marks)

Turn over

3. The following table gives the scores obtained by 11 students in English and Hindi translation. Find the rank correlation coefficient :

Scores in English	*Scores in Hindi*
40	45
46	45
54	50
60	43
70	40
80	75
82	55
85	72
85	65
90	42
95	70

(10 marks)

4. Find out from the following

(a) Correlation coefficient.

(b) The two regression lines.

(c) Most likely value of X when Y = 12 .

(d) Most likely value of Y when X = 22.

(e) The two regression coefficients.

X :	2	8	10	–2	5	–4
Y	3	2	5	10	—2	—3

(10 marks)

5. Assuming that one iii 80 births is a case of twins, calculate the probability of 2 or more sets of twins in a day when 30 births occur. Compare the result obtained by using (i) The Binomial (ii) Poisson approximation ?

(10 marks)

6. The mean and standard deviation of a normal distribution are 60 and 5 respectively. Find the interquartile range and mean deviation of the distribution.

(10 marks)

7. (a) In a sample of 100 persons from a town, it was seen that 20 are suffering from TB. Find 95% confidence interval for the proportion of TB patients in that town.

(b) A standard examination has been given for several years with $\mu = 70$ and $^2 = 90$. A school using this examination for the first time conducted it to a group of 25 students who obtained mean marks 71 and sample variance 12. Is there are reason to doubt the process variance increased. (a =0.5).

(10 marks)

8. Two samples taken from a Normal population gives the following results

Sample size	*Mean*	*S.D*
12	1050	68
10	980	74

Do this sample come from the same population, given $\sigma^{1^2} = {}^{a2^2}$ α O.1 ?

9. It is the claim more IAS selections are made from cities rather than rural areas. On the basis of **the** following data, do you uphold the claim a =0.5.

IAS	*Selected*	*not selected*	*Total*
City	500	200	700
Rural	100	30	130
Total	600	230	830

(10 marks)