STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2009 – 10 & thereafter)

SUBJECT CODE: BY/PE/BB33

M. Sc. DEGREE EXAMINATION, NOVEMBER 2011
BIOTECHNOLOGY
THIRD SEMESTER

COURSE : ELECTIVE
PAPER : BIOPHYSICS & BIOSTATISTICS
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ALL QUESTIONS. **10 x 2 = 20**

DEFINE / EXPLAIN THE FOLLOWING.

1. Nucleic acids
2. MALDI
3. MODE
4. Variance
5. Supramolecules
6. Null hypothesis
7. Lipoprotein
8. Standard error
9. Nernst equation
10. NMR

SECTION – B

ANSWER ANY FOUR QUESTIONS, EACH WITHIN 600 WORDS. **(4 x 10 = 40)**

11. Discuss thermodynamic principles.
12. Explain protein-protein interaction.
13. Give an account on spectroscopy.
14. Obtain the value of median from following data.

391	384	591	407	672	522	777	753	2,488	1,490

15. Write a detail note on tabulation of data.

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16. Calculate the standard error of mean from the following data showing the amount paid by 100 firms in Calcutta on the occasion of Durga pooja:

Mid value Rs.	39	49	59	69	79	89	99
No of firms	2	3	11	20	32	25	7

SECTION – C

ANSWER ANY TWO QUESTIONS, EACH WITHIN 1500 WORDS. (2 x 20 = 40)

15. Write a note on structure of membranes. Explain the transport phenomena through membranes.
16. Write short notes on:
    a) X-ray diffraction
    b) Structural polymorphism of carbohydrates.
19. Calculate coefficient of correlation from the following data:

X	100	200	300	400	500	600	700
Y	30	50	60	80	100	110	130

20. Give an account on: a) ANOVA b) Chi square test

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