

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted during the academic year 2011-2012 & thereafter)

SUBJECT CODE : 11PH/ME/BM53

B.Sc. DEGREE EXAMINATION NOVEMBER 2014
BRANCH III - PHYSICS
FIFTH SEMESTER

COURSE : MAJOR – ELECTIVE
PAPER : BIO-MEDICAL PHYSICS
TIME : 3 HOURS

MAX. MARKS : 100

SECTION - A

ANSWER ALL QUESTIONS: (10x3=30)

1. Mention the salient features of X-rays.
2. Give the basic principle of angiography.
3. Explain the concept of ultrasonography.
4. What is Doppler effect?
5. Briefly explain the action potential in neurons.
6. Define Einthoven Triangle.
7. What are brain waves?
8. Distinguish between EEG and MEG.
9. Mention any three safety measures for protection against radiation.
10. Explain the term half life with an example.

SECTION – B

ANSWER ANY FIVE QUESTIONS: (5x6=30)

11. Explain IVP.
12. Explain the principle and working of stethoscope with necessary diagram.
13. Explain the biomechanics of the cardiovascular system.
14. Discuss the unipolar leads in ECG.
15. Describe the electrode system used in EEG.
16. Explain Lorentz force in MEG.
17. Explain the working of Gamma camera.

SECTION – C

ANSWER ANY TWO QUESTIONS: (2x20=40)

18. Explain the working of X-ray machine with a block diagram.
19. Explain ultra sound imaging system and list its applications in medicine.
20. With the block diagram explain the ECG recording setup.
21. Describe the role of radioisotopes in diagnostic and therapeutic application in medicine.
