

2010

MOLECULAR BIOLOGY – GENERAL – PRACTICAL

Fourth Paper

Group – B

(Biophysics)

Full Marks – 20

The questions are of equal value

Answer *any one* question

1. An electrocardiogram (or a part of it) is supplied to you.
Answer the following questions to the point.
 - (i) What are bipolar leads? What are unipolar leads?
 - (ii) What is the dimension of each small square on the paper strip along both the axes?
 - (iii) How can you justify the abnormality of the ECG from the duration of QRS complex?
 - (iv) Calculate the rate of heart beat from the ECG supplied to you.
2. An USG record of a particular part of human body is supplied to you.
Answer the following questions briefly and to the point.
 - (i) What are the utility of USG?
 - (ii) Write down the advantage of using ultrasound for diagnostic purpose over X-rays.
 - (iii) What is the difference between an ultrasonic A scan and an ultrasonic B scan?
 - (iv) In a USG record with colour what does blue colour mean?
3. An X-ray photograph of human chest is supplied to you. Carefully observe the picture and answer the following questions to the point.
 - (i) List some causes of blurring of the X-ray photograph. How the blurring can be reduced?
 - (ii) Why the heart is not clearly seen in the chest X-ray?
 - (iii) What are the contrast materials commonly used in diagnostic radiology?
 - (iv) How do you distinguish between bones and soft tissues?