Practice Question Set For A-Level

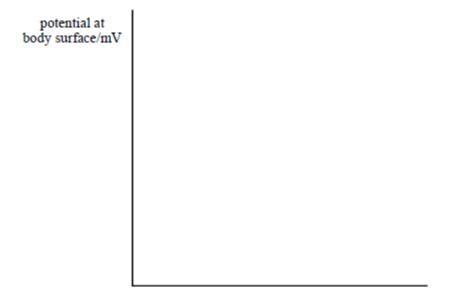
Subject: Physics

Paper-3 Topic: Section B (Section 10_ Medical Physics)



Name of the Student:		Time : 21 Minutes
Q1.	eye test shows that a person suffers from astigmatism.	
(a)	Give the main cause of astigmatism.	
(b)	State the effect of astigmatism on the image seen.	
(c)	State the type of lens needed to correct this defect of vision.	
(d)	Give two quantities which must be known in order to manufacture the correcti	ing lens.
	2	 (Total 5 marks)
	onverging lens of power 10 D produces a magnified image of a small object. The in the centre of the lens and is the same way up as the object.	image is 0.25 m
(a)	State one other property of the image.	
(b)	Determine the focal length of the lens.	(1)
(c)	Show that the object should be placed approximately 0.07 m from this lens for	(1) the image to be
(=)	formed.	

(d)	Draw a ray diagram below to show how this image is formed. Mark the positions of the object, image and the principal foci of the lens.
	A scale diagram is not required.
	(2
	(Total 7 marks
Q3.	
Elec	trodes are attached to the chest of a healthy person and a normal ECG waveform is obtained.
(a)	State two ways of ensuring good electrical contact between the electrodes and the person.
	(2
(b)	State two properties of the amplifier needed to amplify the signal from the electrodes.
	(2
(c)	Sketch, on the axes below, the waveform that you would expect to obtain. Label the axes with appropriate scales.



Mark on the waveform where the following occur:

- (i) atrial depolarisation
- (ii) ventricular depolarisation
- (iii) ventricular repolarisation.

(5) (Total 9 marks)