

Name of the Student: \_\_\_\_\_

Max. Marks : 15 Marks

Time : 15 Minutes

**Q1.**

A defective eye has an unaided far point of 2.5 m and an unaided near point of 0.20 m. A correcting lens is used to produce an aided far point at infinity.

(a) (i) Name the defect of vision affecting the eye.

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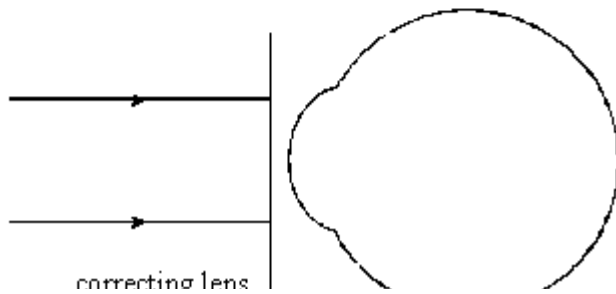
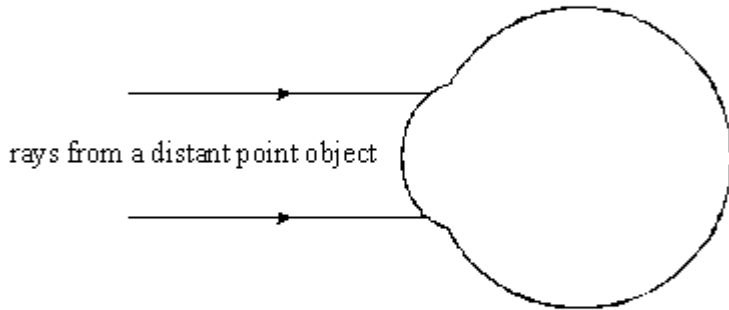
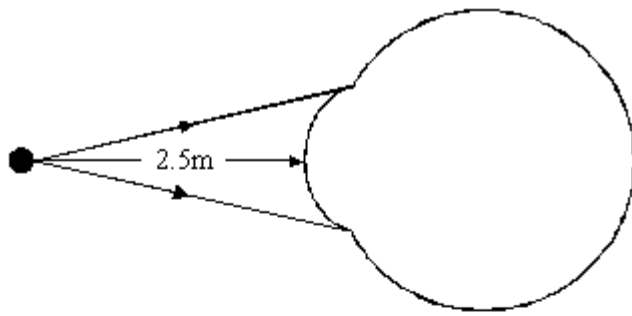
(ii) State **one** possible cause of this defect of vision.

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\_\_\_\_\_

(2)

(b) Complete the ray diagrams below for the defective eye.



(3)

(c) (i) Calculate the power of the correcting lens.

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(ii) Calculate the aided near point when wearing the correcting lens.

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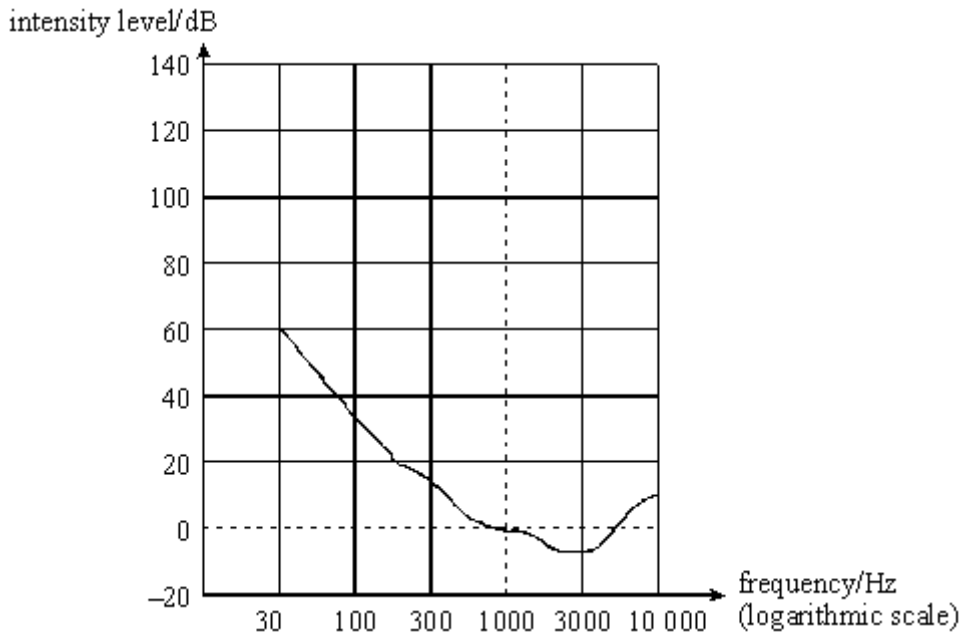
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(4)

(Total 9 marks)

**Q2.**

- (a) The graph shows the equal loudness curve for the threshold of hearing.



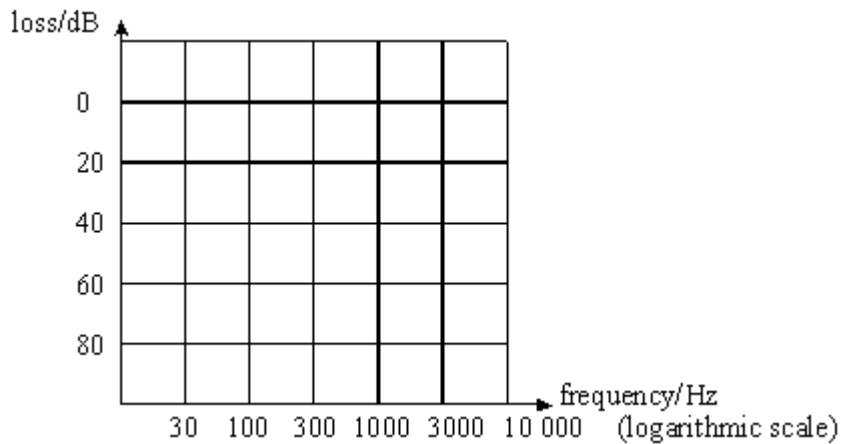
- (i) On the diagram sketch the equal loudness curve which has an intensity level of 120 dB at a frequency of 1000 Hz. (120 phon)
- (ii) What is the main similarity between the two curves?

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(2)

- (b) On the axes below draw the curves for:

- (i) age-related hearing loss and label it A,
- (ii) noise-induced hearing loss and label it B.



- (iii) What is the main difference between the two types of hearing loss?

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(4)

(Total 6 marks)