

**MACHAKOS UNIVERSITY**  
**2<sup>ND</sup> SEMISTER EXAMINATION FOR CRAFT YEAR 1 2019**  
**APPLIED SCIENCE ELECTRICAL AND ELECTRONICS**  
**CERTIFICATE CRAFT MODULE**  
**INSTRUCTIONS: ANSWER ALL FIVE QUESTIONS IN THE**  
**ANSWER SHEET.**

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Q1a) Define the four laws of reflection (8Mks)

b) With aid of simple sketches explain the characteristics of images formed by concave mirrors when the object is at the following

i) Infinity

ii) Object beyond C

iii) Object at C

iv) Object at between C and F

v) Object at F

vi) Between F and P (12Mks)

Q2. A convex Mirror of focal length 9 Cm produces an image on its axis 6cm away from the mirror. If the image is 3cm high, determine by scale drawing.

a) The object distance from the mirror.

b) The size of the object.

(Nb) Use a suitable scale in this case is 1cm to represent 3 cm of actual length on vertical scale and 1cm to represent 4 cm on horizontal scale. (20Mks).

Q3 (a) Define sound (2Mks)

Q3 (b) Name any 4 sources of sound (8Mks)

c) In air the speed of sound is about 330m/s. This speed is dependent on various factors. List them (6Mks)

i)

ii)

iii)

d) Reflected sound is called \_\_\_\_\_ (2Mks)

e) In some hall sound waves are reflected from the walls, floor and ceiling. Since the echo time is short, the Echo overlaps with the original sound. The original sound thus seems to be prolonged. This effect is called \_\_\_\_\_ (2Mks).

Q4 (a) Define between solids and liquids (3Mks)

b) Differentiate between solids and liquids (4 Mks)

c) With aid of simple experiment explain how you can find the density of an irregularly shaped stone assuming it does not suck water. (13Mks)

Q5 With aid of simple sketches explain that pressure acts in (20Mks)

i) Equally acts in all directions

ii) Pressure increases with depth.

iii) Pressure in liquid takes its own level