

Candidates were expected to give reasons why a hole which is larger or smaller than required may be produced when drilling even when the correct size of a drill is selected.

In response to this question, candidates were expected to state that if the lengths of the cutting lips of a twist drill are not equal then it will produce an oversize hole. If on the other hand, the lands of a twist drill are worn out then the drill will produce an undersize hole.

Question 8

- (a) (i) Name the filler rod and the flux used in brazing.
(ii) State **one** reason for removing the residue flux after brazing. (2 marks)
- (b) (i) Explain the effect of each of the following conditions when hot forging.
(i) under heating
(ii) over heating (2 marks)

This question required the candidates to name the filler rod and the flux used in brazing and give the reason why residue flux should be removed after brazing. In part (b) of this question, candidates were supposed to explain how underheating and overheating affect hot forging.

Expected responses

Specter of brass is the filler rod and borax is the flux used in brazing. Residue flux should be removed to avoid corrosion on the joint and also allow paint to hold at the joint area.

If too much heat is applied when hot forging, the heat will cause permanent change of grain structure hence change of metal properties. If the work is under heated, the metal may crack due to stress and strain and therefore become difficult to work on the surface.

Question 10

Figure 3 shows a front elevation of a right cone resting on horizontal plane.

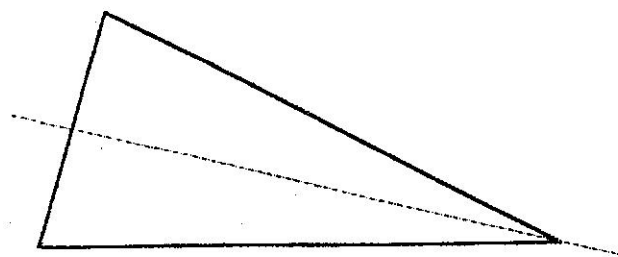


Figure 3

Draw the plan in first angle projection.

(5 marks)