Code: 9A21301 R09

B.Tech II Year I Semester (R09) Supplementary Examinations, May 2013

AIRCRAFT ENGINEERING DRAWING WITH CAD

(Aeronautical Engineering)

Time: 3 hours Max. Marks: 70

All questions are to be answered
First angle projection to be adopted.

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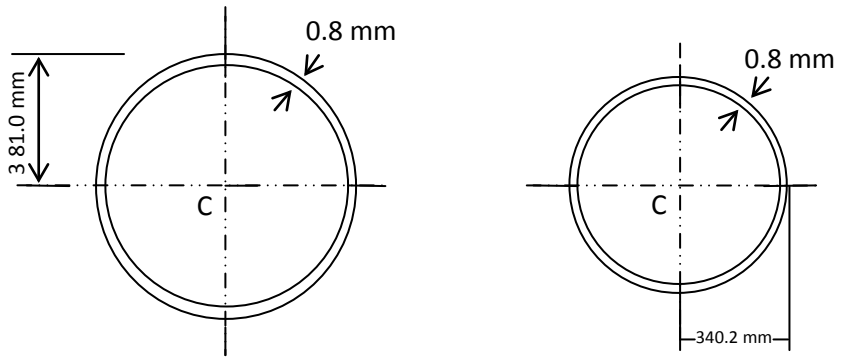
1. Answer any two of the following: **[5x2=10 M]**
   (a) Draw the following thread profiles and mark proportions.
      i) Witworth thread.
      ii) Buttress thread.
      iii) ACME thread.
      iv) Square thread.
      v) B.S.W. thread.
   (b) (i) Draw sunk key with proportions.
      (ii) Draw wood rough key with proportions.
   (c) Explain the following types of drawings:
      (i) Production drawing. (ii) Exploded assembly drawing. (iii) Schematic assembly drawing. (iv) Drawing for instruction manual. (v) Drawing for catalogue.

2. Answer any two of the following: **[10x2=20 M]**
   (a) Draw three views of a hexagonal headed bolt of nominal diameter 25 mm and length 100 mm with a hexagonal nut and washer in place.
   (b) Draw the top view and sectional front view of a single riveted lap joint. Take the thickness of plate as 12 mm.
   (c) Draw different types of welding symbols used and indicate conventions.

3 Assemble and draw sectional and top view of fuselage model based on drawings of parts shown in figures below (outer skin radius = 381.0 mm, inner skin radius = 340.2 mm, bulk head cross section web height is 40 mm, stringer web height is 25 mm). Assume the number of stringers are 16, bulkheads are 3 (one at middle, two at two ends) and length of the fuselage is 300 mm. **[20 M]**



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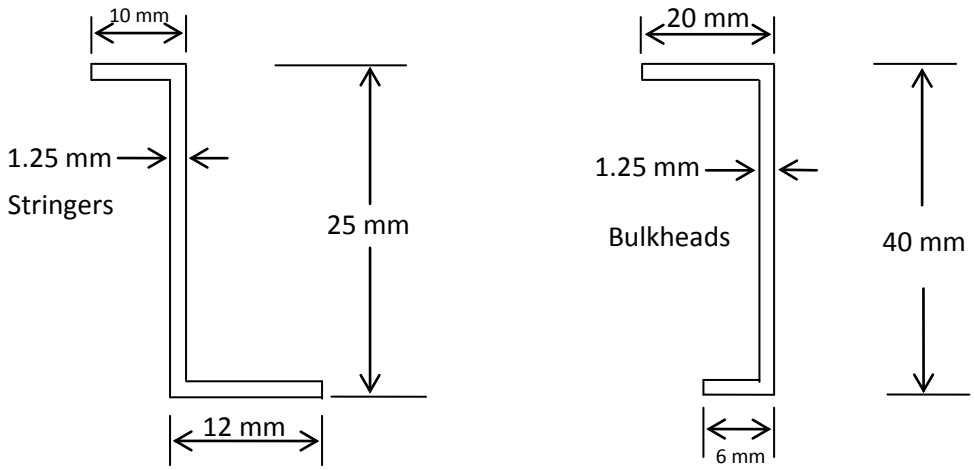

4 (a) Explain, what are the four coordinate systems used in AutoCAD. **[10+10 M]**

(b) Explain the following AutoCAD commands with examples:

i) PL.
ii) Z.
iii) Move.
iv) Ellipse.
v) Limits.
vi) Line.

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