Code: 9A21301

B.Tech II Year I Semester (R09) Supplementary Examinations June 2017
AIRCRAFT ENGINEERING DRAWING WITH CAD
(Aeronautical Engineering)

Time: 3 hours   Max. Marks: 70

All questions to be answered
First angle projection to be adopted
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Section - I
Answer any two of the following (02 X 5 = 10 Marks)

1   Explain isometric scale and write isometric view of a circle and sphere.

2   What is difference between orthographic and pictorial views?

3   Why it is necessary to use isometric scale for drawing isometric projection? Explain with neat sketch.

Section - II
Answer any two of the following (02 X 10 = 20 Marks)

4   Draw the sketches of look bolt and eye bolt.

5   Draw half sectional front view of solid flanged coupling used to connect shafts of 25 mm diameter.

6   Draw the top view and sectional front view of a single riveted lap joint. Take thickness of plate as 12 mm.

Section - III
Answer the following (01 X 20 = 20 Marks)

7   Draw a 2-d sectional profile of NACA 2415 from the data given below. Take airfoil chord of 25 cm for your workout.

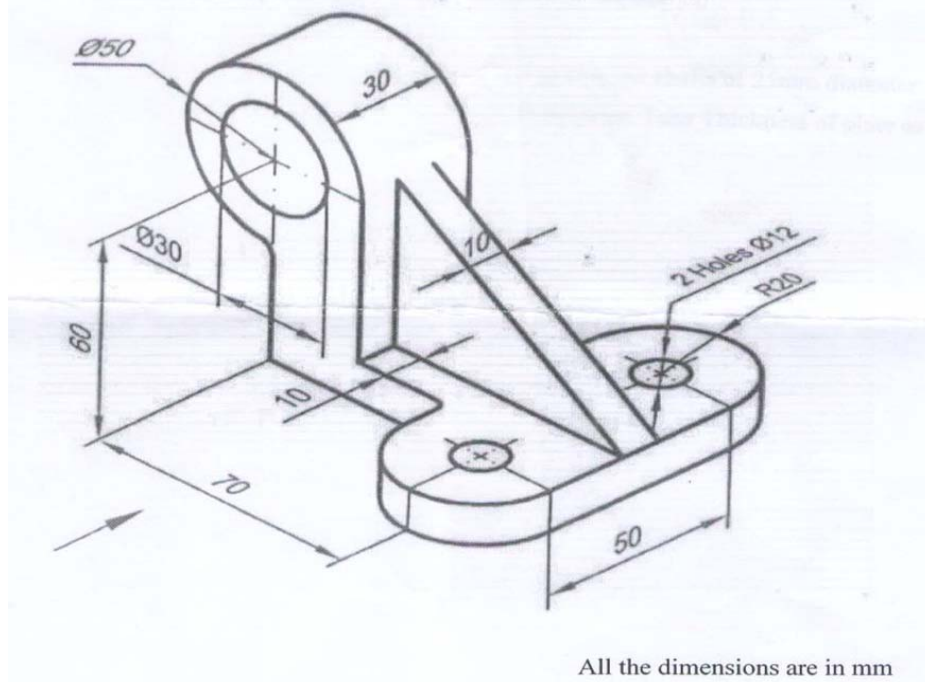| NACA 2415			
Upper surface		Lower surface	
Station	Ordinate	Station	Ordinate
0	0	0	0
1.25	2.71	1.25	-2.06
2.5	3.71	2.5	-2.86
5.0	5.07	5.0	-3.84
7.5	6.06	7.5	-4.47
10	6.83	10	-4.90
15	7.97	15	-5.42
20	8.70	20	-5.66
25	9.17	25	-5.70
30	9.38	30	-5.62
40	9.25	40	-5.25
50	8.57	50	-4.67
60	7.50	60	-3.90
70	6.10	70	-3.05
80	4.41	80	-2.15
90	2.45	90	-1.17
95	1.34	95	-0.68
100	(0.16)	100	(-0.16)
100	0	100	0
L.E radius : 2.48			
Slope of radius through L.E : 0.10			

Section - IV
Answer the following (01 X 20 = 20 Marks)

8   Write the commands in sequence in Auto CAD to generate the model shown in the figure below.

All the dimensions are in mm

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