RAMAIAH UNIVERSITY OF APPLIED SCIENCES

ASSIGNMENT

Course Code	ESC103A
Course Name	Engineering Drawing
Programme	B.Tech
Department	CSE
Faculty	FET

Name of the Student	Satyajit Ghana
Reg. No	17ETCS002159
Semester/Year	2ND/2017
Course Leader/s	Mr.ARUN KARTHIK

Declaration Sheet				
Student Name	SATYAJIT GHANA			
Reg. No	17ETCS002159			
Programme	B.Tech		Semester/Year	2ND/2017
Course Code	ESC103A			
Course Title	ENGINEERING DRAWING			
Course Date	--	to	--	
Course Leader	Mr.ARUN K			

Declaration

The assignment submitted herewith is a result of my own investigations and that I have conformed to the guidelines against plagiarism as laid out in the Student Handbook. All sections of the text and results, which have been obtained from other sources, are fully referenced. I understand that cheating and plagiarism constitute a breach of University regulations and will be dealt with accordingly.

Signature of the Student		Date	
Submission date stamp (by Examination & Assessment Section)			

Signature of the Course Leader and date	Signature of the Reviewer and date

Question No. 1

Solution to Question No. 1:

A.1: Development of 3D Book Concept

Description:

A 3D book is a concept where paper is cut out with one of the sides of the base attached to the sheet such that the cut central portion can be folded to form required objects that stand out of the plane sheet of paper when the sheet is opened.

Given to make a 3-D Book of a Prism of 5 sides with base length $20\ mm$ and axis height of $52\ mm$.

Total Length in Development = $5 \times 20 = 100mm$

Since the object is closed from all sides the base face and the top face are added on each of the sides.

Scale is chosen to be $1:1$ i.e. $1mm = 1mm$

Question No. 2

Solution to Question No. 2:

B.1: Development of combination of objects:

Description:

Figure 1 Top View

Figure 2 Front View

The combinatio of Objects chosen were, Cylinder, Square Prism and Hexagonal Prism of different dimensions. They were stacked upon each other and the Top and Front view of this stacked objects image was taken.

The Sequence of Stacking was $Cylinder \rightarrow Square\ Prism \rightarrow Hexagonal\ Prism$, where the hexagonal prism was placed at the top.

Dimensions:

- Cylinder:
  - $Diameter$: $60\ mm$
  - $Height$: $40\ mm$
- Square Prism:
  - $Base\ Side\ Length$: $40\ mm$
  - $Height$: $26\ mm$
- Hexagonal Prism:
  - $Base\ Side\ Length$: $15\ mm$
  - $Height$: $37\ mm$

The Cylinder is resting on HP and axis of this cylinder is perpendicular to HP and parallel to VP, Square Prism is resting on top of the Cylinder and the base is at a distance 40mm from HP, the axis is perpendicular to HP, Hexagonal Prism is resting on top of the Square Prism and the base is at a distance 66mm from HP, the axis is perpendicular to HP.

The Total Lengths used in Development are as follows:

- Cylinder: $Total\ Length = \pi \times D = \pi \times 60 = 188.49\ mm$
- Square Prism: $Total\ Length = 4 \times 40 = 160\ mm$
- Hexagonal Prism: $Total\ Length = 6 \times 15 = 90\ mm$

The Scale chosen for the development was $1:2$, where $1mm = 2mm$, i.e. 1mm on the paper is 2mm in real world.