RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Faculty of Engineering and Technology			
Ramaiah University of Applied Sciences			
Department	Mechanical and Manufacturing Engineering	Programme	B. Tech. (All branches)
Semester/Batch	2nd /2017		
Course Code	ESC103A	Course Title	Engineering Drawing
Course Leader(s)	Dr. Murugesh M. C., Dr. Ananth S. Iyengar, Mr. B. U. Balappa, Mr. Arun Karthik S., Mr. Shrikrishna M. Badiger		

Assignment - 01			
Reg.No.		**Name of Student**	

Sections		Marking Scheme	Max Marks	First Examiner Marks	Moderator
				Marks	
Part A	A.**1**	**Description of the given problem**	02		
	A.**2**	**Manual Drawing – plotting of the given data**	04		
	A.**3**	**Manual Drawing – Front View, Top View, True Lengths**	07		
	A.**4**	**AutoCAD Drawing – plotting of the given data**	04		
	A.**5**	**AutoCAD Drawing – Front View, Top View, True Lengths**	06		
	A.**6**	**Labelling and neatness**	02		
		Part-A Max Marks	**25**		
Part B	B.**1**	**Description of the given problem**	02		
	B.**2**	**Manual Drawing – plotting of the given data**	04		
	B.**3**	**Manual Drawing – Front View, Top View, True Lengths**	07		
	B.**4**	**AutoCAD Drawing – plotting of the given data**	04		
	B.**5**	**AutoCAD Drawing – Front View, Top View, True Lengths**	06		
	B.**6**	**Labelling and neatness**	02		
		Part-B Max Marks	**25**		
		Total Assignment Marks	**50**		

Course Marks Tabulation				
Component-1 (B) Assignment	First Examiner	Remarks	Moderator	Remarks
A				
B				
Marks (Max 50)				
Marks (out of 25)				

Signature of First Examiner   Signature of Moderator

Please note:

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.

2. The First Examiner is required to mark the comments in RED ink and the Second Examiner's comments should be in GREEN ink.

3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.

4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

Assignment - 01

Term - 1

Instructions to students:

1. The assignment consists of **2** questions: Part A – **1** Question, Part B – **1** Question.

2. Maximum marks is **50**.

3. The assignment has to be neatly word processed as per the prescribed format.

4. The printed assignment must be submitted to the course leader.

5. **Submission Date: 12.03.2018**

6. **Submission after the due date is not permitted.**

7. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.

8. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

Introduction to the course:

This course deals with graphical representation of geometrical entities in various views for visualization and communication. The students will be taught orthographic and isometric projection of points, lines, planes, solids. The students will also be trained to use CAD tool to carry out these geometric projections.

Part – A (25 marks)

A sky cam or spider cam is a device that is routinely used in sports coverage. In a nutshell, the camera along with its adjustments is held in place with four ropes connected to pulleys held at four tall points in the stadium. One such sky cam is at a height of H (m) from the ground. The position of these pulleys when viewed from the top is given in the Table 1. The angles are measured in the anticlockwise direction from the horizontal line drawn from the camera.

	Elevation of pulleys and camera w.r.t ground (m)	Angular position of pulleys (deg) in the top view from the horizontal line drawn through the camera	Radial position of pulleys (m)
Camera	Hcam		
Pulley 1	H1	Θ1	R1
Pulley 2	H2	Θ2	R2
Pulley 3	H3	Θ3	R3
Pulley 4	H4	Θ3	R4

Table 1

Use suitable scale. Draw the front and top view of the location of the spider cam and the pulleys. Determine the shortest length of rope needed for connecting each pulley to the cam. Also indicate the required angles and total length of the rope.

Reproduce the drawings using AutoCAD software. Submit the printouts of both hand drawn and AutoCAD drawings.

Part – B (25 marks)

An Indian palm squirrel is a bushy tailed creature commonly found in southern states. One such squirrel sources its food from three locations and has a nest nearby. It frequently visits these locations going from its nest to food locations 1, 2 and 3 in the same order and returns to its nest. Assume it takes straight line path between these food locations. The details of the nest and food storage location is given in the Table 2.

	Elevation w.r.t nest (m)	Lateral Position of food sources w.r.t nest (m)	Angle when viewed from the top w.r.t nest from the horizontal line drawn through the nest
Nest	H-nest	-	
Food location 1	H1	X1	α1, North East
Food location 2	H2	X2	α2, North West
Food location 3	H3	X3	α3, South West

Table 2

Use suitable scale. Draw the front and top view of the nest and food storage locations. Obtain the true distance between these locations and calculate the total distance it travels.

Reproduce the drawings using AutoCAD software. Submit the printouts of both hand drawn and AutoCAD drawings.