4TH NATIONAL ABILYMPICS –2014 CHANDIGARH

VOCATIONAL SKILLS CONTEST   **ABOVE 15 YRS.**

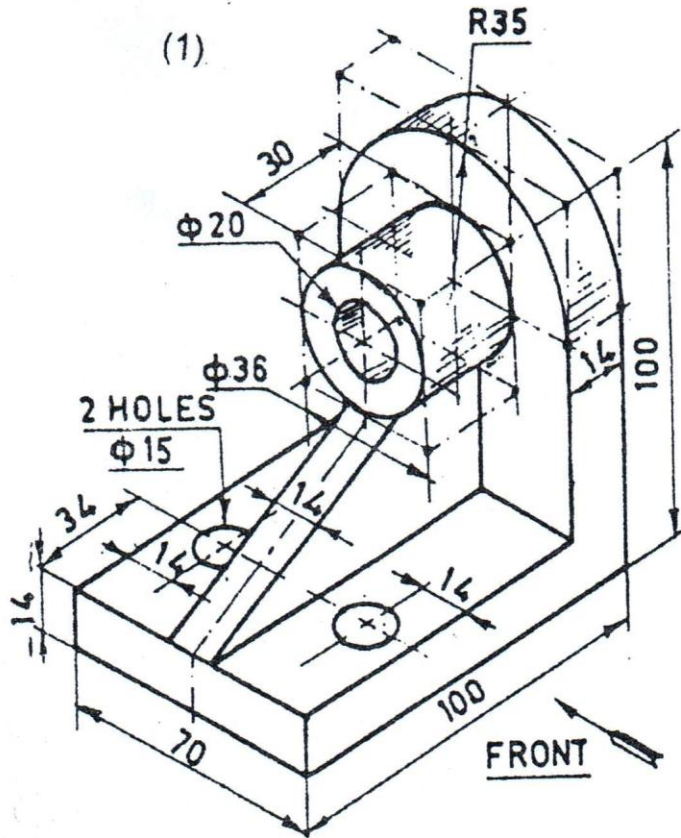## V04 - CAD - MACHINERY

1.   **OBJECTIVE**

The aim of the contest is to allow the contestants to demonstrate competence in the use of CAD package (AutoCAD) in making 2D geometric model of the engineering components. The task is designed in a manner to examine the candidate's process of understanding a three dimensional model and making two dimensional drawings from the given 3D model.

2.   **TASK**

The contest shall be carried out in a CAD based computer environment to check the use of AutoCAD 2010 in making 2D fully dimensioned drawing of the component.

A. Task -1 (60 marks)

Draw the Top View, Front view, Left Side View from the given Isometric view. Each view must be in a separate layer and dimension of all views must be in the dimension layer in magenta colour and as per ISO standard. Center line must be in center line layer in yellow colour using CENTER 5X type. The entities must be white in colour. Line weight 0.5.

(1)

R35

30

Φ20

Φ36

2 HOLES
Φ15

34

16

100

70

16

16

100

FRONT

B. Task 2 (40 marks) – All in one sheet.

Draw the following type of threads.
1) BSW thread with pitch 2.5 mm.
2) Metric thread with pitch 2 mm.
3) Square thread with pitch 5 mm.
4) Buttress thread with pitch 4 mm.

a. **Drawing and Editing:** Draw the given threads with the specified layer names, line type and colour assignments as per ISO standards.

b. **Dimensioning:** Each thread profile has to be drawn in different colour.

c. **Annotation:** The contestant will be required to insert a title block entity and input basic information into the title block.

3. **SPECIAL INSTRUCTIONS**

a. Metric system of measurement will be used and dimensions will be expressed in millimeters.

b. Standard 3D Model will be provided to all contestants to begin the task assignments.

4. **WORK ENVIRONMENT**

Each contestant will be provided a PC with AutoCAD 2010 software running under MS Windows operating system. In case of any special working condition requirement, the same should be asked for twenty-four hours prior to the contest.

5. **EQUIPMENT AND SOFTWARE**

The organizing committee in the contest will provide the following software to each of the contestants.
- Computer with VGA monitor, hard disk drive and mouse.
- Software AutoCAD 2010 or higher version.

6. **ALLOCATED TIME**

Maximum time 3 hrs

7. **EVALUATION CRITERIA**:

Assessment of the skill of the participants will be based on evaluation of the actual CAD file produced by the contestants as well as the printed output of the same.

Activity	Items to be Evaluated	Maximum marks
Task 1		
Drawing	Correct entity creation	30
Presentation of Drawing	Correct Creation of layer (3X10)	3
	Use of colours	4
Dimensioning.	Use of dimension style	3
Information Retrieval	Accuracy of Information	5
Annotation	Correct setting of text parameters	5
Layout and Scale	Correct setting of layout, scale	10
	TOTAL	**60**
Task 2		
Drawing	Correct entity creation (5X4)	20
Presentation of Drawing	Correct Creation of layer	3
	Use of colours	3
Dimension	Use of dimension style	3
Annotation	Correct setting of text parameters	3
Layout and Scale	Correct setting of layout, scale	8
	TOTAL	**40**