



Reg. No. :

Name :

**Fourth Semester B.Tech. Degree Examination, April/May 2012
(2008 Scheme)**

**Branch : Mechanical Engineering
08.406 : MACHINE DRAWING (MN)**

Time : 4 Hours

Max. Marks : 100

- Instructions :**
- i) Answer **any two** questions from Part – A. **Each** question carries **10** marks.
 - ii) Part – B is **compulsory** which carries **80** marks.
 - iii) Only first angle projection to be **used**.
 - iv) Any missing dimensions may be suitably **assumed**.

PART – A

- 1. Draw two views of Pin Joint for 30 mm diameter rods and mention suitable tolerance/fits at appropriate mating surfaces.
- 2. Compute the limit dimensions of the shaft and the hole for a clearance fit based on hole basis system.

Base size of the shaft = ϕ 30 mm

Minimum clearance = 0.020 mm

Tolerance on the hole = 0.033 mm

Tolerance on the shaft = 0.021 mm

Check the calculated dimensions and represent the limit dimensions schematically.



- 3. Determine the allowances and tolerances for the following dimensions of mating parts according to the hole bases system.
 - i) Shaft – ϕ 27.470 mm
 ϕ 27.445 mm
 - ii) Hole – ϕ 27.500 mm
 ϕ 27.523 mm

Check the calculated dimensions. Represent the limit dimensions schematically.

(2×10=20 Marks)



PART – B

4. Figure shows the details of a Rams bottom safety valve. Assemble the parts and draw the following views :

a) Sectional front view

50

b) Top view

30

Particulars of Parts

No.	Name of part	Material	No. off
1.	Body	CI	1
2.	Valve	GM	2
3.	Seat	C-30	2
4.	Pivot	C-30	1
5.	Lever	C-30	1
6.	Spring	Spring Steel	1
7.	Shackle with nut	C-30	1
8.	Link	C-30	2
9.	Collar	C-30	1
10.	Pin (pivot)	C-30	1
11.	Pin (link)	C-30	2
12.	Cap-screw	C-30	4
13.	Split pin	C-30	3

