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10AU36A/46A

Third/Fourth Semester B.E. Degree Examination,

(Automobile Engineering)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours | Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. Drawing instruments may or may not be used for sketching
7. **Part C Assembled View should be in 3D and other 2 views in 2D.**

PART-A

1) A cylinder of base diameter 50mm and axis 100mm long rests on its base on the HP. A VT cuts the cylinder at 70^0 to the HP through the mid point of the axis. Draw the front view, sectional plan and true shape of section. **[20 Marks]**

2) Draw two views of square headed bolt and nut for a 25mm diameter bolt. Take the length of the bolt equal to 125mm. **[20 Marks]**

PART-B

3) Draw the sectional front view and top view of a double-riveted lap joint with zig-zag riveting to connect two plates of 12mm thickness. Use snap head rivets and show all calculation on the answer sheet. **[20 Marks]**

4) Draw the side view and sectional front view of a Oldham's coupling by taking the shaft diameter as 20mm. **[20 Marks]**

PART-C

5) Figure 1. Shows the details of an I.C. Engine Connecting Rod. Assemble the parts and draw the following views. Dimension the drawings.
   a) Front View with top half in section.
   b) Top view. **[60 Marks]**

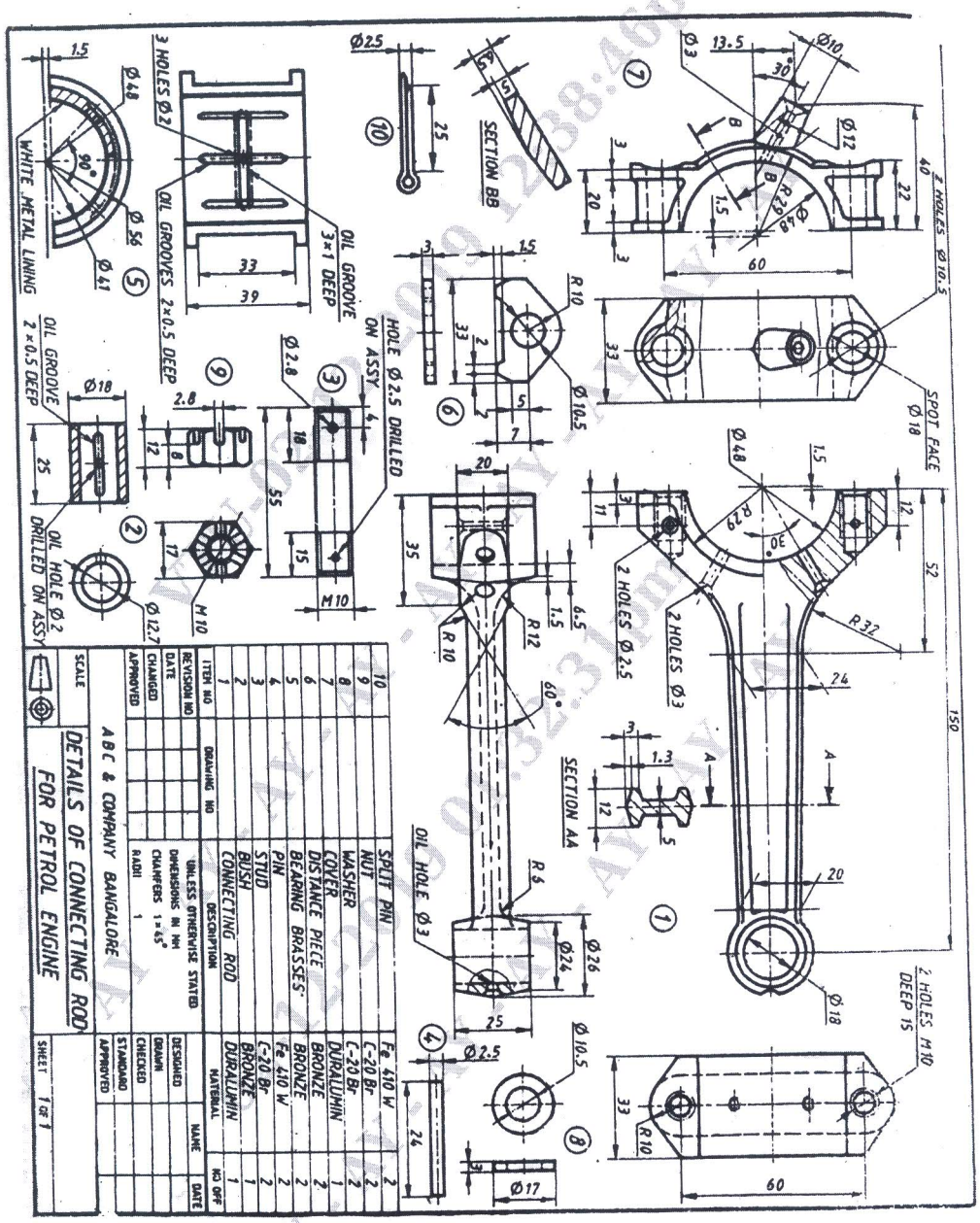
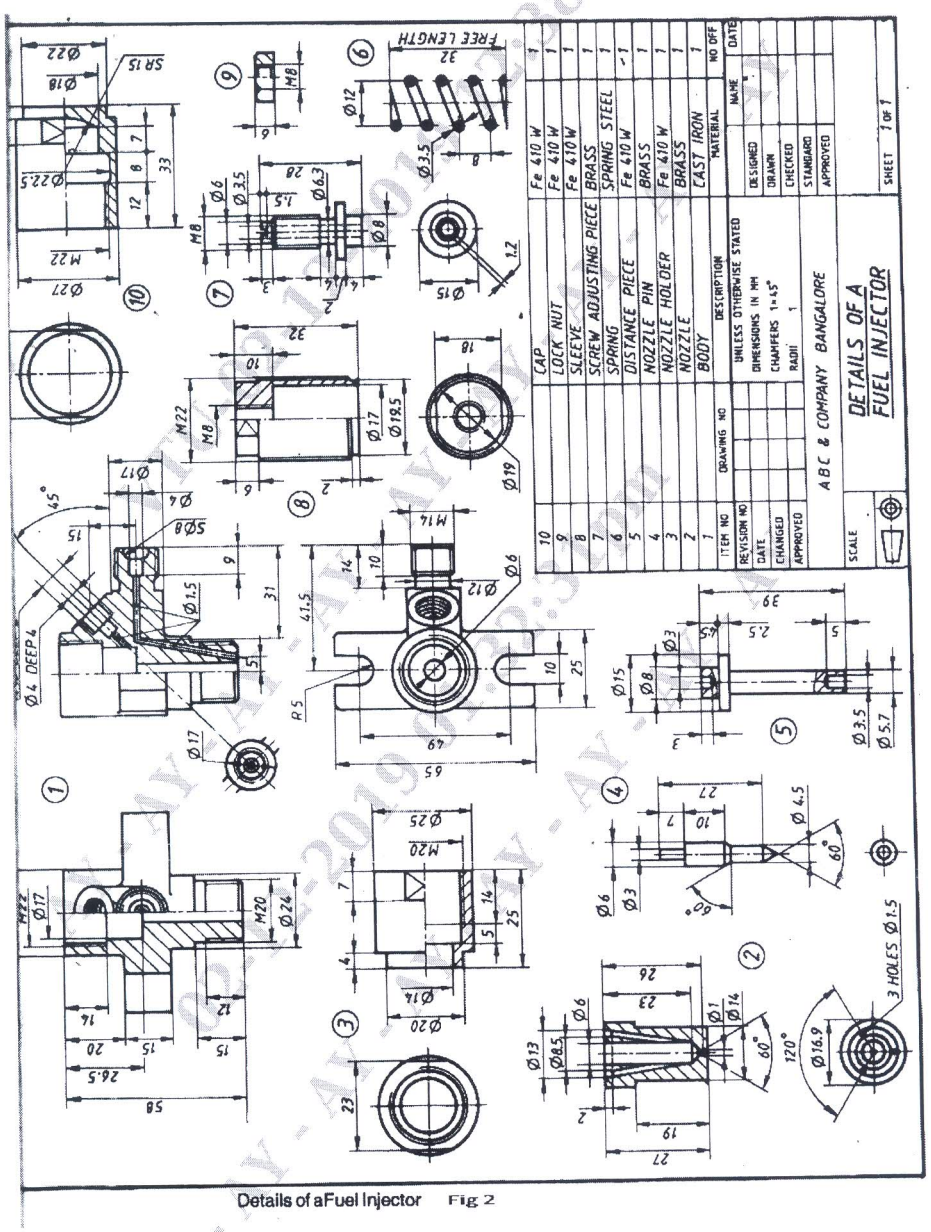

ABC & COMPANY BANGALORE
DETAILS OF CONNECTING ROD
FOR PETROL ENGINE
SCALE
SHEET 1 OF 1
ITEM NO
DESCRIPTION
MATERIAL
NO OFF
NAME
DRAWING NO
REVISION NO
DATE
CHANGED
APPROVED
DESIGNED
DRAWN
CHECKED
STANDARD
APPROVED
UNLESS OTHERWISE STATED
DIMENSIONS IN MM
CHAMFERS 1 x 45°
RADII 1
SPLIT PIN
NUT
WASHER
COVER
DISTANCE PIECE
BEARING BRASSES
PIN
STUD
BUSH
CONNECTING ROD
Fe 410 W
C-20 Br
C-20 Br
DURALUMIN
BRONZE
BRONZE
Fe 410 W
C-20 Br
BRONZE
DURALUMIN
WHITE METAL LINING
OIL GROOVE 2×0.5 DEEP
OIL HOLE Ø2 DRILLED ON ASSY
3 HOLES Ø2
OIL GROOVES 2×0.5 DEEP
OIL GROOVE 3×1 DEEP
HOLE Ø2.5 DRILLED ON ASSY
SECTION BB
SECTION AA
OIL HOLE Ø3
2 HOLES Ø10.5
SPOT FACE Ø18
2 HOLES Ø2.5
2 HOLES Ø3
2 HOLES M10 DEEP 15
M10
150

Figure 1

6) Figure 2. Shows the details of a Fuel Injector. Assemble the parts and draw the following views. Dimension the drawings.

a) Front View with right half in section.

b) Top view. **[60 Marks]**



Details of aFuel Injector Fig 2