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Total No. of Questions : 09]   [Total No. of Pages : 05

B.Tech. (Sem. - 3rd)

MACHINE DRAWING

SUBJECT CODE : ME - 207

Paper ID : [A0804]

[Note : Please fill subject code and paper ID on OMR]

Time : 04 Hours   Maximum Marks : 60

Instruction to Candidates:

    1)   Section - A is **Compulsory**.

    2)   Attempt any **Four** questions from Section - B.

    3)   Attempt any **Two** questions from Section - C.

Section - A

Q1)   *(10 x 2 = 20)*

    a)   What are the permanent and temporary fasteners? Give two examples of each of them.

    b)   With the help of free hand sketch, show the **edge** and **plug** type of welded joints.

    c)   What are the purposes achieved by the use of Gib in a Gib and Cotter joint?

    d)   Why are split muff couplings used in preference to solid muff?

    e)   Why is cotter tapered in its side(s)? State two reasons.

    f)   What are various methods of stopping the bolts from rotating in bolt holes, while tightening the nuts?

    g)   Which type of pipe joint is used for underground sewerage pipeline? Make its free hand sketch.

    h)   What is the difference between a gate valve and glove valve?

    i)   Why are the square threads preferred on a screw jack?

    j)   With the help of free hand sketch, show the 'off-set' and 'broken' types of sectioning.

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Section - B

(4 x 5 = 20)

Q2) Draw the following views of a double riveted (zig-zag) lap joint for connecting two plates of thickness 14 mm.

  (a) Front view (Full section).

  (b) Top view.

  Show at least two pitch lengths. Fully dimension the drawing along with the formula's used.

Q3) Draw the front and top view of a Hexagonal nut for D = 30 mm. The chamfering on the nut should be drawn with a standard procedure, only on one side. Also draw the threads in front and view with proper convention.

Q4) Make the following free hand views of an Oldham's coupling.

  (a) Full sectional front view.

  (b) Right hand view.

Q5) Make the following free hand views of a Sleeve and Cotter joint.

  (a) Front view with upper half section.

  (b) Top view.

Q6) Giving all the standard proportions, draw the following thread sections to a scale full size:

  (a) Acme thread.

  (b) Metric thread.

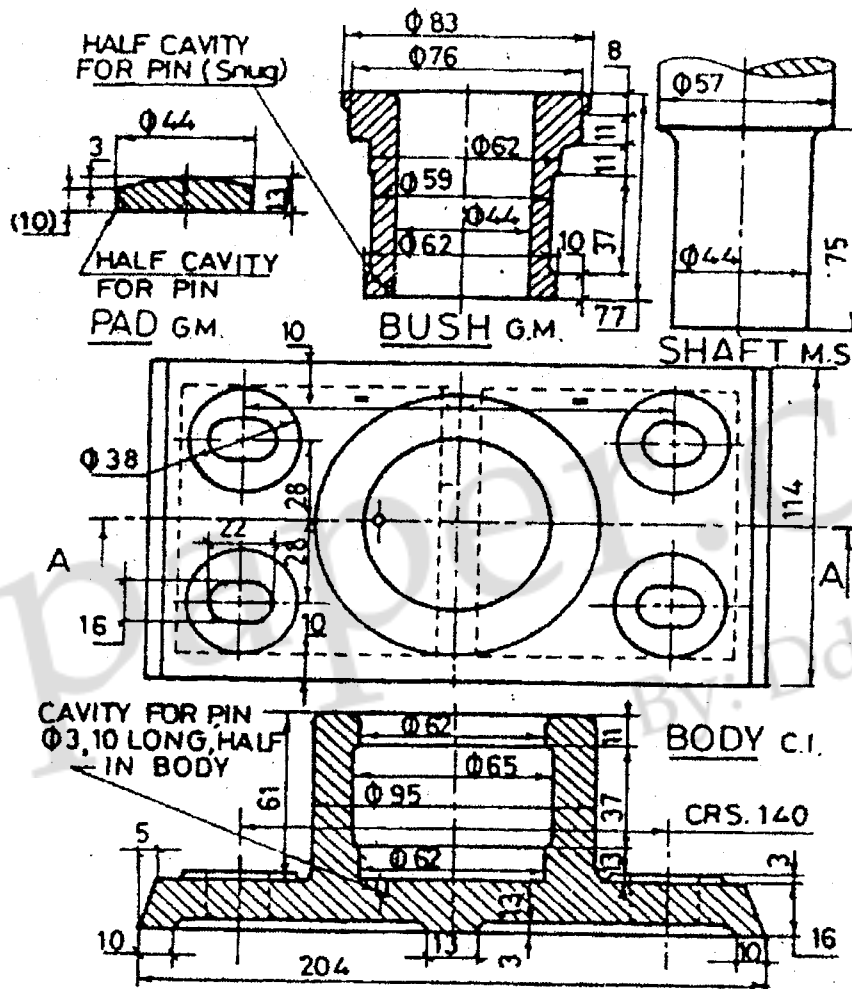 Show at least two complete pitch lengths for each thread.

  Take pitch = 45 mm.

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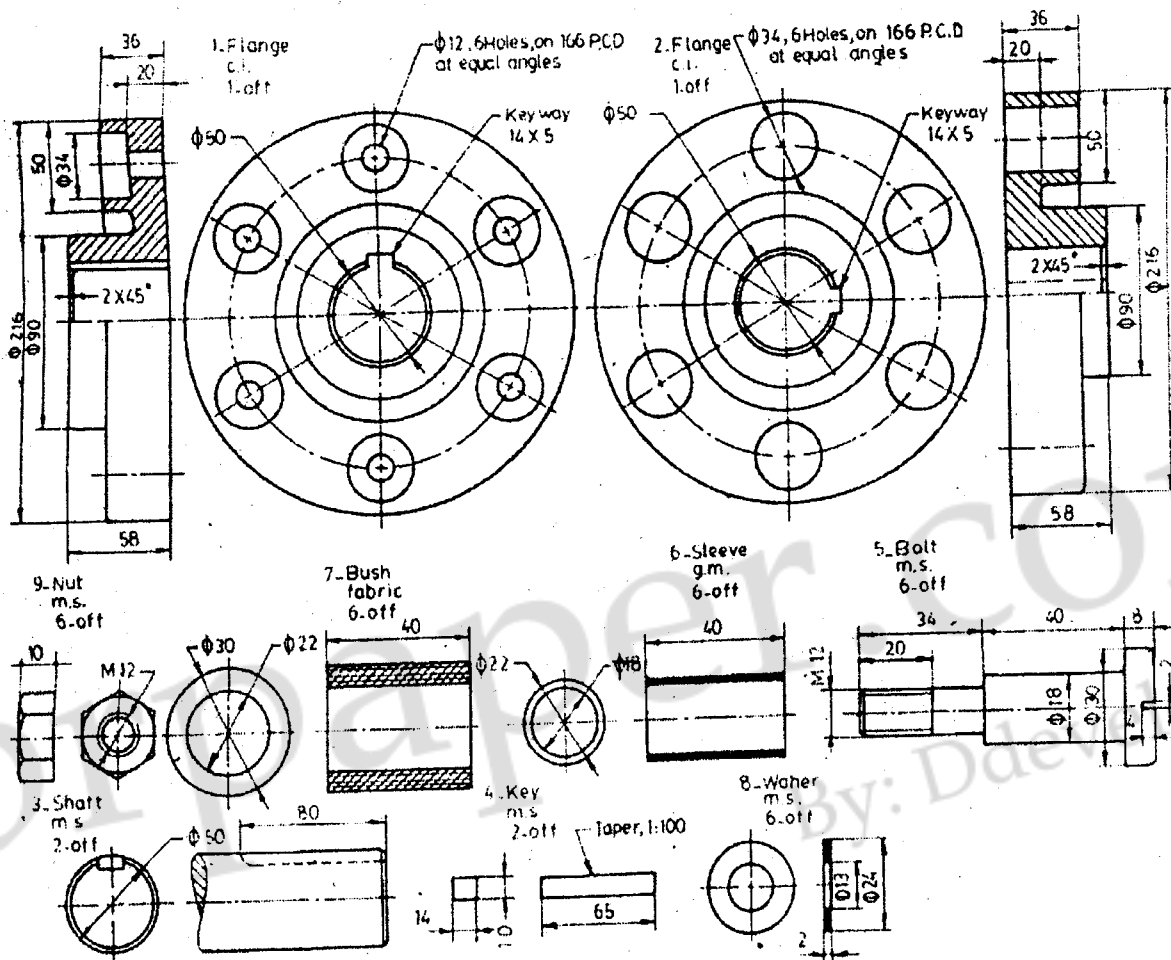
Section - C

(2 x 10 = 20)

Q7) Following figure shows the details of a Footstep Bearing. Assemble the parts and draw the following views of the assembly.

(a) Front view (Left Half section).

(b) Top view.

Q8) Following figure shows the details of a flexible coupling. Assemble the parts and draw the following views:

(a) Front view (Lower half section).

(b) Right hand side view.

Q9) Following figure shows the details of a Steam Stop Valve. Assemble the parts and draw the following views:

    (a)   Front view (Right half section).

    (b)   Top view.