Vocational Practical Question Bank

First & Second Year

Mechanical Engineering Technician

Course Code : 314

State Institute of Vocational Education

O/o the Commissioner of Intermediate Education

Andhra Pradesh, Hyderabad

&

Board of Intermediate Education,

Andhra Pradesh, Hyderabad

First Year

MECHANICAL ENGINEERING TECHNICIAN

Second Year (P.C. 314/21)

Subject : Workshop Practice
Paper - I

Time : 3 Hours   **Max. Marks : 50**

Section - I   **(1 x 40 = 40 Marks)**

1. Prepare 'T' section with given material in fitting shop.

2. Prepare 'L' section with given plate in fitting shop.

3. Make a holes on given plate with given sizes.

4. Make a plain turning on given work piece by lathe machine.

5. Make step turning on given work piece by lathe.

6. Make Knurling on given work piece by lathe.

7. Threading on given work piece by lathe.

8. Make round bar from a Square bar.

9. Make a ring by a given round rod.

10. Make a S-hook from a given rod.

11. Make a rectangular tray by a given sheet metal.

12. Make a rectangular scoop by a given sheet metal.

13. Make a funnel by a given sheet metal.

14. Make a square butt joint with given work pieces by arc welding.

15. Make a 'T' joint with given two pieces by arc welding.

16. Make a Lap joint with a given work piece by arc welding.

17. Make a corner joint with given work pieces by arc welding.

18. Write a part programme for plain turning for given work piece by using C.N.C lathe.

19. Write a part programme for step turning for given work piece by using C.N.C lathe.

20. Write a part programme for threading for given work piece by using C.N.C lathe.

Section - II

Record   **5 Marks**

Viva   **5 Marks**

MECHANICAL ENGINEERING TECHNICIAN

First Year

MODEL QUESTION PAPER

Subject : Workshop Practice

Paper - I

Time : 3 hours   **Max. Marks : 50**

Section - I   **(1 x 40 = 40 Marks)**

18. Write a part programme for plain turning for given work piece using C.N.C lathe.

Section - II

Record   **5 Marks**

Viva   **5 Marks**

MECHANICAL ENGINEERING TECHNICIAN

First Year

PRACTICAL SCHEME OF VALUATION

Subject : Workshop Practice

Paper - II

Time : 3 hours	**Max. Marks : 50**

Section - I   **(1 x 40 = 40 Marks)**

(i) Aim / Requirements /Tools/Material / Apparatus	**5 Marks**
(ii) Diagram / Procedure / Job	**10 Marks**
(iii) Experiment /Observation / Performance	**20 Marks**
(iv) Result / Conclusion	**5 Marks**

Section - II

Record	**5 Marks**
Viva	**5 Marks**

MECHANICAL ENGINEERING TECHNICIAN
First Year (P.C. 314/22)

Subject : Engineering Drawing
Paper - II

**Time : 3 Hours**   **Max. Marks : 50**

Section - I   **4 x 5 = 20 Marks**

1. What are the uses of set Square?

2. What is the use of 'T' Square?

3. Print the following matters in 10 mm size vertical lettering.

    "VOCATIONAL EDUCATION"

4. List out drawing Instruments.

5. Print the following title in simple vertical single stroke capital by free hand lettering of 10mm size.

    "MECHANICAL ENGINEERING TECHNICIAN"

6. Divide a line of 80mm into 8 equal parts?

7. Print the single stroke 10mm size vertical letter.

    "WORK IS WORSHIP"

8. Construct a regular heptagon of side 25mm semi circle method.

9. Divide a line 102mm long in to 7 equal parts.

10. Construct an ellipse by concentric circles method.

11. Construct a pentagon for the given side of 30mm.

12. Construct a parabolic curve with base as 80mm and axis 30mm-Tangent method.

13. Construct a hexagon in a circle of dia 60mm.

14. Draw the sectional view of a shaft dia 30mm.

15. Inscribe a hexagon for the given side of 40mm.

16. Draw the sectional view of a external thread of dia 20mm.

17. Construct an ellipse by concentric circles of dia 60mm.

18. Draw the sectional view of a bolt dia 15mm.

19. Draw the projections of a point which is 25mm under the HP and 35mm in front of VP.

20. What are the various commands of Autocad Screen.

21. Construct a parabola by a rectangular method by taking bases as 80mm and height as 50mm.

22. Draw the Conventional representation of metals, glass, and wood.

23. What is meant by Half sectional view?

24. Draw a rectangular hyperbola given a point at a distance of 20mm and 15mm from the Two asymptotes.

25. Draw in a free hand sketch of the following Tools.

      (a) Hammer   (b) Open ended Spanner

Section - II   **4 x 5 = 20 Marks**

26. Draw the plan elevation and side view of the rectangular prism of base 30x20mm and height 40mm.

27. Draw the three views of the hexagonal prism of side 10mm and length 30mm.

28. Draw the plan, elevation and side view of a cylinder of diametric 20mm and length 30mm.

29. Draw the multi views of cone dia 60mm and height 80mm.

30. Draw the three views of the block shown in Ist angle projection.
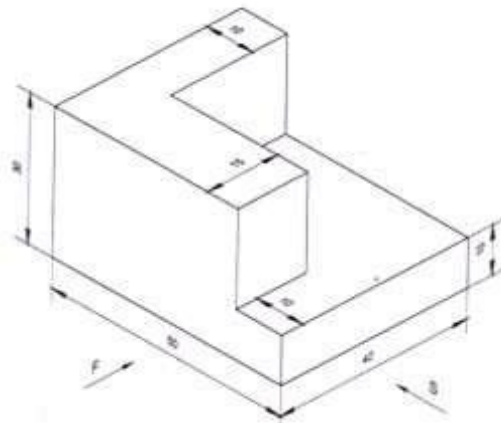
Fig   Ist angle projection

31. Draw the three views of the block given in 3rd angle projection.
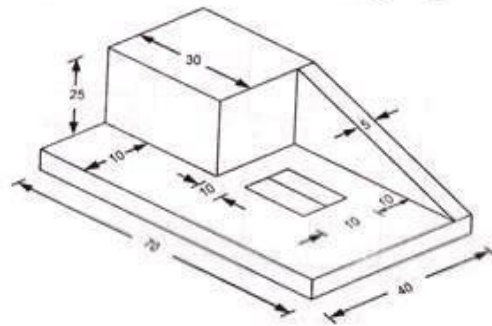

Fig 3rd angle projection

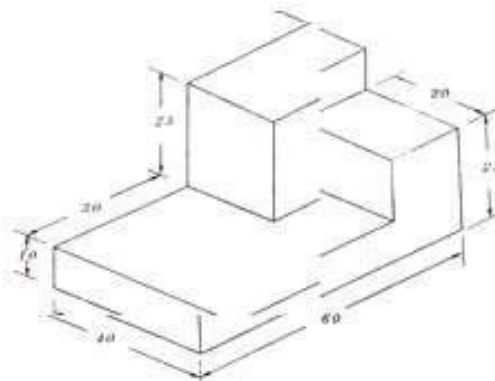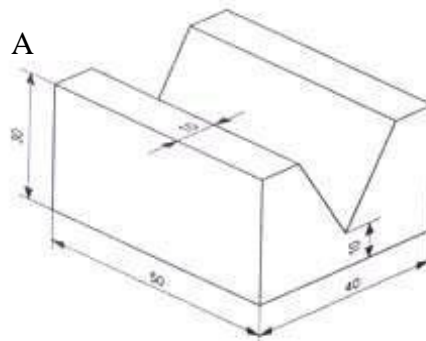32. Draw the three views of the block in 3rd angle projection.

Fig 3rd angle projection
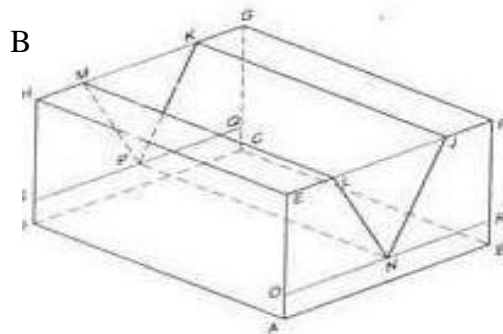
33. Draw the isometric views of V-Block given in figure.

B

Fig V-Block

34. Draw the isometric views of stepped block in figure.

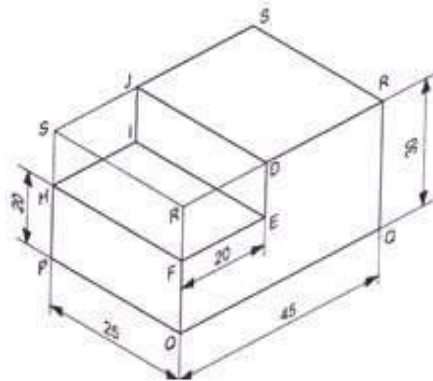**Fig Stepped block**

35. Draw the isometric view of rectangle of a side 30 mm length 60mm.

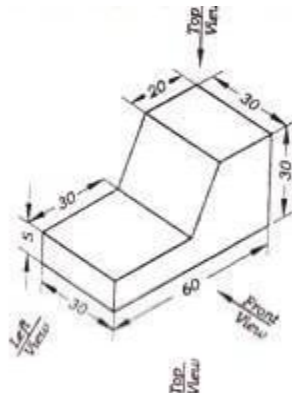36. Draw the plan elevation and side views of the figure.

Fig Elevation and side views

MECHANICAL ENGINEERING TECHNICIAN

First Year

MODEL QUESTION PAPER

Subject : Engineering Drawing

Paper - II

Time : 3 hours   **Max. Marks : 50**

Section - I   **4 x 5 = 20 Marks**

3. Print the following matters in 10 mm size vertical lettering.

"VOCATIONAL EDUCATION"

4. List out drawing Instruments.

5. Print the following title in simple vertical single stroke capital by free hand lettering of 10mm size.

"MECHANICAL ENGINEERING TECHNICIAN"
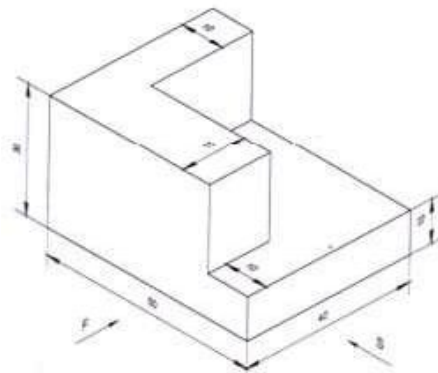
6. Divide a line of 80mm into 8 equal parts?

Section - II   **4 x 5 = 20 Marks**

27. Draw the three views of the hexagonal prism of side 10mm and length 30mm.

29. Draw the multi views of cone dia 60mm and height 80mm.

30. Draw the three views of the block shown in Ist angle projection.

8. Draw the isometric views of V-Block given in figure.
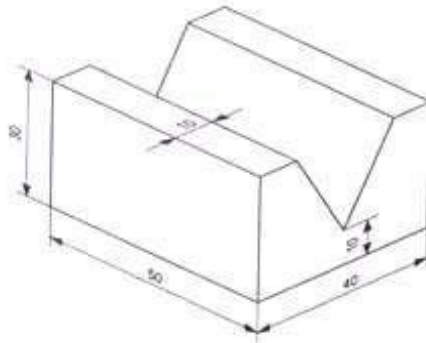
Section - III

Record   5 Marks

Viva   5 Marks

Note : The serial numbers of the questions mentioned in are the serial numbers
in question bank. In practical examination only the serial number of the
questions will given, the examiner shall decode it with question bank
and give the questions.

MECHANICAL ENGINEERING TECHNICIAN

First Year

PRACTICAL SCHEME OF VALUATION

Subject : Engineering Drawing

Paper - II

Time : 3 hours		Max. Marks : 50

Section - I   **1 x 5 = 5 Marks**

        (i) Drawing   :   3 Marks

        (ii) Usage of instrument / Description   :   2 Marks

Section - II   **1 x 5 = 5 Marks**

        (i) Plan   :   2 Marks

        (ii) Elevation and Sideview   :   3 Marks

Section - III

        Record   :   5 Marks

        Viva   :   5 Marks

MECHANICAL ENGINEERING TECHNICIAN
First Year (P.C. 314/23)

Subject : Mechanical & Electrical Engineering Lab
Paper - III

Time : 3 Hours   **Max. Marks : 50**

Section - I   **1 x 40 = 40 Marks**

Mechanical Engineering Lab

1. Determine the flash and fire point of a given oil using Pensky's martins closed cup apparatus.

2. Determine Flash fire point of a given oil by Abel's closed cup apparatus.

3. Determine the obsolute and Kinematic viscosities of given oil at given temperature using red wood viscometer.

4. Determine the higher calorific value of a given gaseous fuel with Junker's Gas calorimeter.

Electrical Engineering Lab

5. Given three resistances are connected in series, draw the circuit diagram and then determine the current at given voltage.

6. Given three resistance are connected in parallel, draw the circuit diagram and then determine the voltage at given current.

7. Measure the resistance by using multimeter.

8. Draw the circuit diagram and verify the Ohm's Law.

9. Open the D.C motor and identify the each part and explain them.

10. Over hual a given D.C meter.

11. Dismantle the D.C motor and test the parts by using a test lamp.

12. Identify the terminals of D.C machine.

13. Open the given Generator and identify the parts and reassemble it.

14. Prepare a battery for charging and to connect to any charging method.

15. Make a wiring circuit to control one lamp from different place by two-way switches in stair case wiring.

16. Draw the wiring diagram of flourescent lamp and make the connection.

17. Perform the pipe earthing.

18. Perform the plate earthing.

19. Dismanteling and asssembling the ceiling fan.

20. Overhual and electric Iron.

Section - II

Record	5 Marks
Viva	5 Marks

MECHANICAL ENGINEERING TECHNICIAN

First Year

MODEL QUESTION PAPER

Subject : Mechanical & Electrical Engineering Lab

Paper - III

Time : 3 hours   **Max. Marks : 50**

Section - I   **(1 x 40 = 40 Marks)**

   6. Given three resistance are connected in parallel, draw the circuit
      diagram and then determine the voltage at given current.

Section - II

   Record   **5 Marks**

   Viva   **5 Marks**

MECHANICAL ENGINEERING TECHNICIAN

Second Year

PRACTICAL SCHEME OF VALUATION

Subject : Mechanical & Electrical Engineering Lab

Paper - III

Time : 3 hours	**Max. Marks : 50**

Section - I   **1 x 40 = 40 Marks**

(i) Aim / Requirements / Tools/Material / Apparatus	**5 Marks**
(ii) Diagram / Procedure / Job	**10 Marks**
(iii) Experiment / Observation / Performance	**20 Marks**
(iv) Result / Conclusion	**5 Marks**

Section - II

Record	**5 Marks**
Viva	**5 Marks**