MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-I
WORKSHOP PRACTICE (322/21)
QUESTION BANK

Time: 3hrs Max.Marks:50

Section-I 1X20 =20

1. Prepare " L " section with given flat in fitting shop.
2. Make a rectangular tray with a given sheet metal.
3. Make step turning on given work piece by Lathe machine.
4. Make round bar with a given square bar.
5. Make a " T " Joint with given two pieces by arc welding.

Section-II 1X10 =10

6. Identify the given Arc welding equipment.
7. Perform the setting of gas welding flames.
8. Perform the surface grinding on given work piece.
9. Make a plane turning on given work piece by lathe machine.
10. Join the two given metal sheets by soldering.

Section-III 1X10 =10

11. Write the uses of: Try square, Tail stock, Tong, Snip, and welding electrode.

12. Write the purpose of: Dieing, knurling, chiseling, soldering, and welding.

13. Write the types of: Taps, Turning operations, Forging hammers, sheet metals, and four welding joints.

14. Write the main difference between: Drilling and Boring, Threading and Knurling, Internal and external grinding, Hammer and Mallet, Lap joint and butt Joint.

15. Write the parts of : File, Lathe machine, Drilling machine, Anvil, and Stake.

Record 5 Marks.
Viva-voce 5 Marks.

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MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-I
WORKSHOP PRACTICE (322/21)
MODEL QUESTION PAPER

Time: 3hrs Max.Marks:50

5, 9, 4

Note:- The serial numbers of the questions mentioned above are the serial numbers in question bank. In practical examination only the serial number of the question will be given. The questions given by TSBIE are for 40 marks. The examiner shall decode it with the question bank and give the questions.

Record 5 Marks.

Viva-voce 5 Marks.

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MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-II
ENGINEERING DRAWING USING AUTO CAD (322/22)
QUESTION BANK

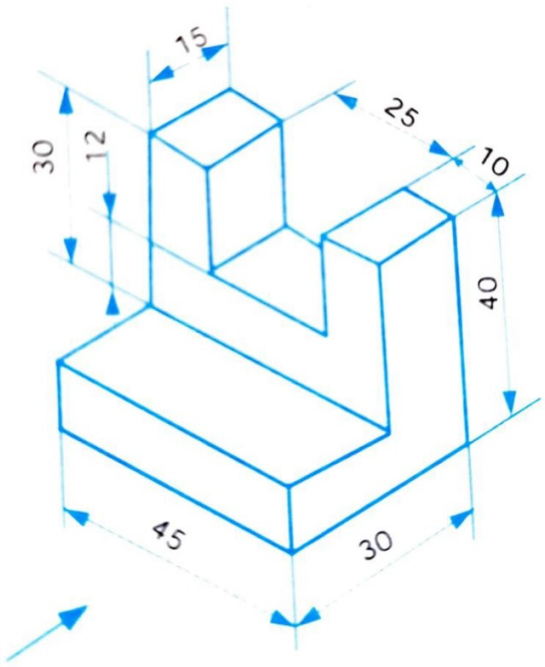
Time: 3hrs Max.Marks:50

Section-I 1X20 =20

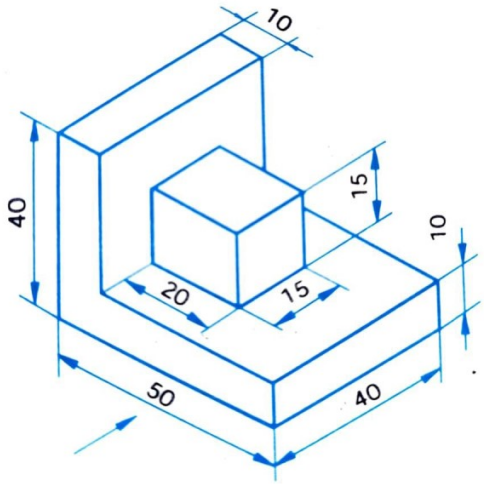
1. Model a 2 degrees of freedom RR planar manipulator with an end effecter using Autocad.
2. Model a 3 degrees of freedom Cartesian manipulator with an end effecter using Autocad.
3. Model a 3 degrees of freedom Articulated manipulator with an end effecter using Autocad.
4. Model a 3 degrees of freedom Articulated wrist with an end effecter using Autocad.
5. Model a PUMA robot with an end effecter using Autocad.

Section-II 1X10 =10

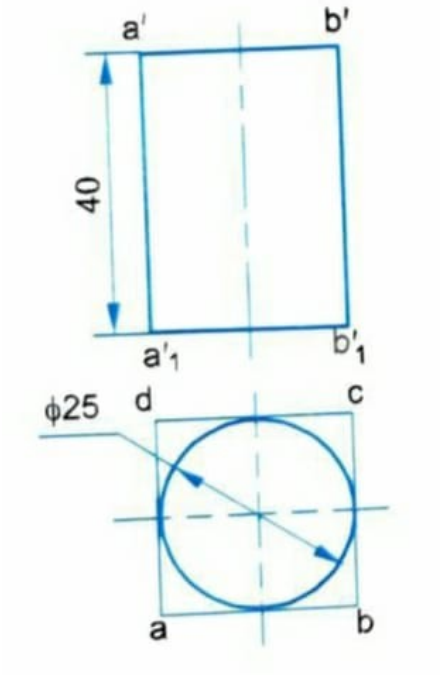
6. Draw the orthographic views of an object given below in First or Third angle projection using Autocad.



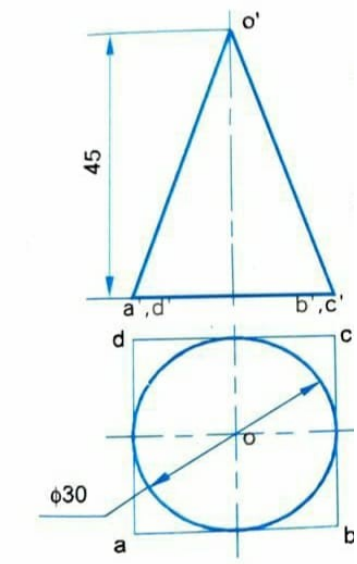
7. Draw the orthographic views of an object given below in First or Third angle projection using Autocad.



8. Draw the Isometric drawing of a Cylinder of base diameter 25mm and axis 40mm long using Autocad.



9. Draw the Isometric drawing of a Cone of base diameter 30mm and axis 45 mm long using Autocad.



10. A Cone of base 50mm diameter and axis 70mm long, lies on its base on H.P. A section plane parallel to H.P. passes through the axis at a point 40 mm from the base. Draw the projections of the remaining cone using Autocad.

Section-III 1X10 =10

11. Write about the: a) Advantages of CAD.
b) Disadvantages of CAD.
12. Write about the: a) Utilities of Autocad software in Engineering.
b) Basic initial setting of Autocad interface.
13. Write the list of: a) Any 10 tool bar names.
b) Some of the basic entities in 2D.
14. Write about the : a) Absolute co-ordinate system.
b) Relative co-ordinate system.
15. Write about the: a) Mirror command.
b) Extend command.

Record	5 Marks.
Viva-voce	5 Marks.

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MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-II
ENGINEERING DRAWING USING AUTO CAD (322/22)
MODEL QUESTION PAPER

Time: 3hrs Max.Marks: 50

5, 9, 4

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Record 5 Marks.
Viva-voce 5 Marks.

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MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-III
INDUSTRIAL ROBOTICS LAB (322/23)
QUESTION BANK

Time: 3 hrs Max.Marks: 50

Section-I 1x20=20

1. Build and simulate an Articulated robot with an end effectors using RoboDK / RoboAnalyzer open source software.
2. Build and simulate a SCARA robot with a wrist using RoboDK / RoboAnalyzer open source software.
3. Simulate a pick and place operation using RoboDK / RoboAnalyzer open source software.
4. Build and simulate robot spray painting operation using RoboDK / RoboAnalyzer open source software.
5. Build and simulate robot 3D printing operation using RoboDK / RoboAnalyzer open source software.

Section-II 1x10 =10

6. To connect and demonstrate the usage of tilt sensor Using Tinkercadd open source software.
7. To connect and demonstrate the usage of force sensor Using Tinkercadd open source software.
8. Build a circuit for open door alarm mechanism Using Cretile Voyager kit.
9. Build a circuit for operating an automatic water tap Using Cretile Voyager kit.
10. Build a circuit for operating a wired Robot.

Section-III 1x10 =10

11. Write briefly about the Degrees of Freedom.
12. Write briefly about the Grippers.
13. Write briefly about the End effectors.
14. List the tools used with robots in place of End effectors.
15. List the general applications of robots.

Record 5 Marks
Viva-Voce 5 Marks

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MECHANICAL ENGINEERING
FIRST YEAR PRACTICAL, PAPER-III
INDUSTRIAL ROBOTICS LAB (322/23)
MODEL QUESTION PAPER

Time: 3 hrs Max.Marks: 50

5,9,14

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Record	5 Marks
Viva-voce	5 Marks

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List of Participants

1.	Dr.D. Raji Reddy, JL in Mech. Engg.	GJC Gajwel
2.	J. Durga Prasad JL in Mech.Engg.	GJC Karepally
3.	G. Gopala Krishna JL in Mech Engg.	GJC Palvoncha
4.	B. Purushotham Reddy PTJL in Mech.Engg.	GJC Mothkur