

Mechanical/Automobile

N.B.

1. Attempt any four questions including Q.1 which is compulsory.
2. Figures to the right indicate full marks.
3. Assume suitable data if required.

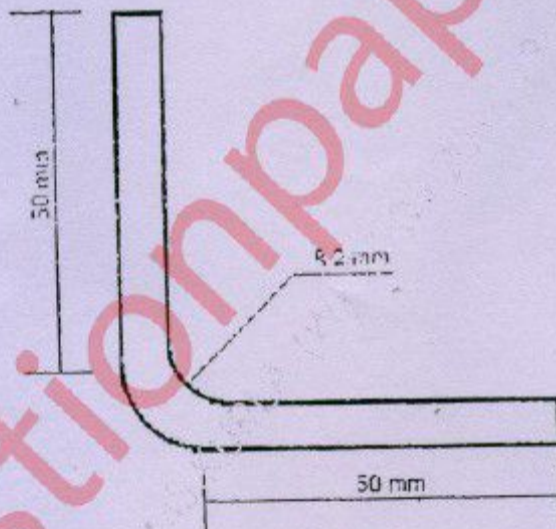
Q.1 Explain any four of the following.

20

- a) Define spring back in bending. Explain methods of overcoming spring back.
- b) Write advantages & limitations of standard mould system.
- c) What is meant by clearance applied to jigs & fixtures?
- d) Write the functions & requirements of dielectric fluid.
- e) Differentiate between general purpose machines & special purpose machines.

Q. 2 a) Determine length of the part before bending for the component shown in figure. The thickness of the sheet is 2 mm.

6



b) Explain following press working operations.

6

i) Perforating ii) lancing iii) nibbling

c) What is strip layout? Explain various factors which will influence it.

8

Q.3 a) Explain with suitable sketches, the various indexing devices.

8

b) What is diamond pin? How & when it is used?

6

d) Explain any two quick acting clamps.

6

Q.4 a) What is transfer line? Write its classification, advantages & limitations.

5

- b) Write short note on flexible manufacturing. 5
- c) Explain abrasive jet machining process with principle, working, process parameters and applications. 10
- Q.5a) Explain ejector system. Also explain any one ejection technique. 10
- b) Write the principles of pin locations. 5
- c) Explain working & construction of progressive die. 5
- Q.6 a) Explain the term undercut molding. Explain the concepts of split mould with suitable example. 10
- b) Explain agile manufacturing 10