

Solution ~~Questions~~ should be — Answer key

WRITTEN IN LEGIBLE HANDWRITING IN BLACK INK.

SIGNS, SKETCHES OR FIGURES IF ANY BE DRAWN IN NEAT BLACK INK,
so as to avoid mistakes in the printed question papers.

Duration ...0.3... Hours.

Total Marks assigned to the paper ...80...

Q. No.	Q.P. Code: 22673 T.E. Mechanical. Engg. (Sem V) (CBS45) N.B.:	Marks
Q.1	Short Notes (20 marks) any 4.	
	(a) Any 5 allowances → Each for one mark.	5
	→ (1) shrinkage allowances (2) draft allowances (3) machining allowances (4) Distortion or Comber allowances (5) shake allowances.	
	(b) silicon Integrated circuits processing.	5
	→ sketch → 2 marks Explanation — 3 marks.	
	(c) Rapid Prototyping.	5
	Explain with application advantages and disadv. — 5	
	→ (Min 3 points of each)	5
	(d) Mechanism of rolling process.	5
	→ sketch — 2 marks. Explanation — 4 marks.	
	(e) Tool life.	5
	→ Explanation (Min 7 to 8 points).	
Q.2 (a)	Explain Investment casting and give its merits and demerits.	10
	→ sketch — 2 marks Explanation — 4 marks merits — 2 marks Demerits — 2 marks.	
(b)	Describe the difference between Compound, progressive and transfer dies.	10
	→ 4 marks → for sketches 6 marks - Explanation	

Q. No.	Marks
Q3(a) Explain machinability & Explain mechanism of chip formation with suitable diagram.	10
→ machinability Explanation — 5 marks. Chip formation mechanism — 2 marks → 3 marks ^{sketch} 3 marks — Explanation.	
(b) Explain following terms. (i) Bending (ii) Embossing (iii) Types of chip. (iv) Cutting fluid.	10
→ 2.5 marks for each term.	
Q4(a) What are basic elements of lathe m/c and Explain function of each.	10
→ Explain any 5 elements — each for 1 mark ^{1 mark} . Sketch of Engine lathe — 03 marks. sk Schematic diagram	
(b) Explain shaping m/c with neat diagram	05
2 marks — Sketch 3 marks — Explanation.	
(c) What What are advantages and disadvantages of adhesive bonding technology?	05
→ Advantages — 2.5 marks } Min 5 pts Disadvantages — 2.5 marks } Points.	

- | Q. No. | Marks |
|---|-------|
| Q5a) Distinguish between Brazing and soldering. | 06 |
| → Min 7 to 8 points of each
i.e. Brazing and soldering. | |
| b) Explain basic principle of forge welding. | 06 |
| → 2 marks - sketch 4 marks - Explain
with advantages and disadvantages. | |
| c) Explain construction, working, application of ultrasonic machining process. | 08 |
| → 2 marks - sketch, 2 marks - Construction details.
2 marks - working principle
2 marks - Applications. | |
| Q6a) Draw schematic diagram of laser beam machining. what are the limitation of laser beam machining. | 10 |
| → 3 marks - sketch 4 marks - detailed explanation, 3 marks - limitations. | |
| b) Name the three exposure technique in photolithography & explain any one. | 05 |
| → 1 marks - 3 Names of exposure technique
4 marks - Explanations with diagram | |
| c) Discuss printed circuit board with suitable diagram | |
| → 2 marks - diagram 3 marks - Explanation | |