



- Notes :
1. Solve **any five** questions.
 2. All questions carry equal marks.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Diagrams and Chemical equation should be given wherever necessary.
 6. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Distinguish between synthesis and analysis mechanism with suitable examples. 7
b) What do you mean by cubic of stationary curvature? Explain one graphical method to draw it. 7
2. a) What is the degree of freedom of mechanism? How it is determined? 7
b) What is the significance of Ball point. What is it's used? 7
3. What do you mean by precision or accuracy points in the design of mechanism? What are the types of error? What is the structural error? Explain in details. 14
4. a) What is the Bobillier constructions? Explain all Bobillier constructions with supporting sketches. 7
b) What is rigid body guidance? Explain in detail. 7
5. a) Explain glubbler criterion for spatial mechanism and reduce the form to apply for planer mechanism. 7
b) What are the conditions for a 4 bar linkage. 7
6. a) Write a short notes on- 7
i) Inflection circle ii) Cubic of stationary curvature.
b) Write a short notes on- 7
i) Bermester points ii) Branch Order Defects
7. a) Explain complex numbers method of synthesis and the dyad. 7
b) State and prove Robert Chebyshev theorem. 7
8. Write down short notes on- 14
i) Bobillier Theorem.
ii) Freudenstein's equation.
iii) Robert Chebyshev theorem.
