



MBV-003-1104010 Seat No. _____

M. Sc. (Sem. IV) (CBCS) Examination

April / May - 2018

Physical Chemistry : C(PM) - 404

(Reaction Dynamics & Mechanism)

(New Course)

Faculty Code : 003

Subject Code : 1104010

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :**
- (1) All questions are compulsory.
 - (2) All questions carry equal marks.

1 Answer the following : (any seven)

- (a) Define : Quantum yield, promoters, photosensitizer, enzyme.
- (b) State the different laws of photo chemistry and explain any one.
- (c) Give the applications of flash photolysis.
- (d) What is the effect of pH on reaction rate ?
- (e) Explain auto oxidation.
- (f) Discuss catalytic coefficient.
- (g) Explain the mechanism of hydrogen and iodine.
- (h) Discuss reaction in gas phase.
- (i) Explain photolysis in acetone.
- (j) Give an account of stop flow method.

2 Answer the following : (any three)

- (a) Factors governing rate of enzyme reaction.
- (b) Types of actinometers.
- (c) Hydro-oxygen reaction.
- (d) Thermal decomposition.

3 Answer the following :

- (a) Discuss primary salt effect.
- (b) (i) Describe the relaxation method in detail.
(ii) Derive Brønsted-Bjerrum equation.

OR

- (a) Explain classical collision theory.
- (b) Thermal reaction between hydrogen and bromine.

4 Answer the following : (any three)

- (a) Give an account of secondary salt effect.
- (b) Explain decomposition of ozone.
- (c) Give an account of acid base catalysis.
- (d) Thermodynamical formulation of reaction rate.

5 Answer the following : (any two)

- (a) Explain the kinetics of enzyme catalysis.
- (b) Discuss the mechanism of hypochlorite iodide reaction by both mechanisms.
- (c) Photochemical reaction of hydrogen and chlorine.
- (d) Discuss the effect of pressure on rate of reaction in solution.
