

# BIOCHEMISTRY

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## Paper - 2

NOV./DEC. 2010

(2 ½ hours)

Total marks : 40

### SECTION – B

2. Write short answers (any 6 of 7) :

(6x4=24)

- a) Metabolic changes in diabetes mellitus.
- b) Essential fatty acids.
- c) Describe the role of various buffers in the maintenance of blood pH.
- d) Detoxification by conjugation.
- e) Describe the role of second messengers in hormone action.
- f) A 3 year old boy with mental retardation was found to have cataracts.

Biochemical investigations showed 12 mg/dl. Of total serum bilirubin most of it being unconjugated type. The baby was put under ultra-violet light lamp. The serum bilirubin level returned to normal after 10 days.

- 1) What is the probable diagnosis?
- 2) What is the reason behind the transient increase in serum bilirubin?
- 3) What is the basis of ultra-violet light therapy?
- 4) What are the consequences if the serum bilirubin levels increase beyond 20 mg/dl?

3. Attempt (any 2 of 3) :

(2x8=16)

- a) Describe the metabolism of glycogen and its hormonal regulations.
- b) Describe the beta-oxidation of fatty acids taking palmitic acids as an example and write an account of the energetics involved.
- c) Describe the metabolism of copper and zinc and their deficiency diseases.