2015

M.Sc.

4th Semester Examination

BIOCHEMISTRY

PAPER—BIC-402

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer *all* questions.

Group — A

1. Answer any *five* questions from the following :   5×2

   (a) What is fenton reaction ?

   (b) What is acid rain ?

   (c) Name two proteins associated with Alzheimer's disease.

(d) Why is nanoparticle more active than its crude bulk form ?

(e) State the difference between LD_{50} and EC_{50}.

(f) Mention the beneficial roles of free radicals.

(g) What is meant by heat stress ?

(h) What is green house effect ?

Group — B

Answer any *two* questions from the following : 5×2

2. What is oxidative stress ? Describe cellular strategy for adaptation of this stress.   2+3

3. Describe the molecular mechanism of Alzheimer's disease. Write down the clinical manifestation of this disease.

   3+2

4. What are top-down and bottom-up approaches and which one is true for nano-world ? What is quantum dot ?

   3+2

5. Discuss on different types of venoms and their mode of action.   5

Group — C

Answer any *two* questions from the following : 10×2

6. Discuss with examples a nanomedicine. What is the basis of naemolytic anemia ? What is HIF (hypoxia inducible factor) ? How does it work ? 5+2+3

7. Briefly describe the role of T cell im multiple selerosis disorder. What are the symtoms of this disorder ? How is it treated ? 4+3+3

8. What is the function of superoxide dismutase ? How does an antioxidant seavange free radical generation ? What different enzymatic antioxidant system present in higher animals ? 3+3+4

9. Mention different types of food toxin and their possible mode of action. State the different provision for bioactivation of some drugs to form carcinogenic material. What is the inter individual variability of drug sensitivity ? 4+3+3

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(Turn Over)