2016

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 questions : 5×2

(a) What is α-Synkulin and mention its function in human brain ?

(b) What are the reaction products of superoxide anion and hydrogen peroxide ?

(c) Discuss the basic differences between the mechanism of action of cobra venom and viper venom.

(d) What is a probit analysis? How does it help in toxicology study?

(e) What is endotoxin?

(f) What is lactose intolerance?

(g) What is IC_{50} and LC_{50}?

(h) What is arsenicosis?

Group — B

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

2. What are the genetic causes of Parkinson's disease? Why are the dopaminergic neurons affected majority during Parkinson's disease? 3+2

3. How do bacteria get drug resistance? What is zoonotic disease? Give an example. 2+2+1

4. How is nanofibre used in medical science? Give few example. Why does nanoparticulated drug perform better than regular drug?

5. Write the mechanism of stress-induced membrane destabilization and apoptotic cell death.

Group — C

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

6. What is the function of (i) Glutathione-S-transferase and (ii) glutathione reductase ? State the functions of catalase and peroxidase. 6+4

7. What is El nino ? What is global warming ? Briefly state the contribution of air pollution on global warming ? 2+2+6

8. How free radicals are associated to cardio-vascular disorder especially in ischemic heart diseases ? How does breathing exercise, yoga and meditation promote health benefits ?

9. Give brief account of arsenic and fluoride toxicity in human body. What are the roles of phytochemicals, polyphenols, and flavonoids against different types of carcinogenesis process ?

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