V
(20516) Roll No. 960120

B. Sc. (Micro.)-II Year

3503

B. Sc. (Micro.) Examination, May 2016

BIOLOGY–IV

(B-210)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt any *five* questions. All questions carry equal marks.

1. What is growth ? Explain cell growth with reference to auxetic and multiplicative growth.

2. Differentiate between the following :

   (a) Photoperiodism and Photomorphogenesis

   (b) Phytochrome and Phytohormone.

3. Discuss the discovery, structure and mode of action of two plant hormones stimulating plant growth in height/length.

4. Write short notes on the following :
   (a) Antiauxins
   (b) MCPA
   (c) Auxanometer
   (d) Apical dominance.

5. Describe the structure of neuron and explain the nature and conduction of nerve impulses.

6. Explain the following hormonal irregularities :
   (a) Hashimoto's disease
   (b) Addison's disease
   (c) Acromegaly
   (d) Diabetes mellitus.

7. What is intermediary metabolism ? With the help of flow-chart only, explain the Embden-Meyerhoff-Parnas pathway, along with energy yield in terms of ATP molecules.

8. Discuss the following :

   (a) Basal metabolic rate (BMR)

   (b) Modifications for heat loss in mammals.

9. Differentiate between types of simple and complex behaviours. What is associative learning ? Explain giving examples of 'Pavilovian Experiment' and 'Operant Conditioning'.

10. Write short notes on the following :

   (a) Konard Lorenz

   (b) FAP

   (c) IRM

   (d) Social insects

   (e) Circadian rhythm.

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(20517) Roll No. .....

B.Sc. (Micro.) II Yr.

3503

B.Sc. (Micro.) Examination, May 2017

BIOLOGY-IV

(B-210)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt any five questions. Each question carries equal marks.

1. What are the various parameters of growth in plants? Discuss the various methods of measuring growth in length of a plant or organ.

2. Differentiate between:

   (a) Multiplicative and accretionary cell growths

   (b) Allometric and isometric growths.

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3. What do you mean by 'bioassay'? Describe the various experiments to bioassay the auxins, gibberellins and cytokinins.

4. Write short notes on the following:

   (a) Meristems

   (b) Abscission zone

   (c) Discovery of GA_3

   (d) Richmnond-Lang Effect.

5. Describe the structure and function of the following:

   (a) Thyroid gland

   (b) Pancreas.

6. Explain the following with reference to conduction of nerve impulse :

   (a) Resting membrane potential

   (b) Action potential

   (c) Saltatory transmission

   (d) Synapse

7. What are poikilothermis and homeotherms? Explain the mechanism of temperature regulation in man.

8. Compare the following :

   (a) Glycogenesis and Glycogenolysis

   (b) Gluconeogenesis and Glycolysis.

9. What is concept of 'drive'? Discuss primary and secondary aspects of motivation.

10. Write short notes on the following :

   (a) Karl Von Frisch

   (b) MAP

   (c) Habituation

   (d) Social life in termites

   (e) Circannual rhythm.

(20518) Roll No. .....

B. Sc. (Micro.)-II Year

3503

B. Sc. (Micro.) Examination, May 2018

BIOLOGY–IV

(B-210)

Time : Three Hours] *[Maximum Marks : 50*

Note : Answer any *Five* questions. Each question carries equal marks.

1. Define Endocrine gland. Explain Adrenal gland with its secretion and hormonal disorders. 10

2. Explain the structure and function of ear in mammals. 10

3. Write short notes on the following : 5×2=10

(a) Circadian Rhythm

(b) Allosteric and Isometric growth.

4. Write short notes on the following : 5×2=10

(a) Cytokinine

(b) Abscisic acid.

5. Write short notes on the following : 2½×4=10

(a) Dormancy

(b) Grave's disease

(c) Ethylene

(d) Phototropism.

6. Explain metabolism. Describe glycolysis in detail. 10

7. Explain the structure of Neuron and describe transmission of impulse in them. 10

8. Write short notes on the following : 5×2=10

(a) Auxetic growth

(b) Innate behaviour.

9. Write short notes on the following : 5×2=10

(a) Homeostatis

(b) Basal metabolic rate.

10. Write short notes on the following : 5×2=10

(a) Imprinting

(b) Ivan Pavlov Experiment.