

2017

Roll No. Answer Sheet No.

Sig. of Candidate. _____

Sig. of Invigilator. _____

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BIOLOGY HSSC-II

SECTION – A (Marks 17)

Time allowed: 25 Minutes

NOTE:- Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

- (i) The abnormal development resulting in small skull of an individual, is the condition known as _____.
A. Megacephaly B. Macrocephaly C. Microcephaly D. Mesocephaly
- (ii) The natural cessation of Reproductive cycle in human female is called _____.
A. Oestrous B. Menopause C. Menstruation D. Ovulation
- (iii) The neuron net of Hydra lacks _____.
A. Neurons B. Dendrites
C. Connections D. Direction of impulse flow
- (iv) The study of relationship of organisms to their environment is known as _____.
A. Biology B. Ecology C. Zoology D. Mycology
- (v) The gill pouches of mammals and birds' embryos are _____.
A. Supportive "ontogeny recapitulates phylogeny"
B. Homologous structure
C. Used by the embryos to breathe
D. Evidence for the dematuration of unused body parts
- (vi) If the sequence of Nucleotides on one strand of DNA is A-T-A-G-C, the sequence on the other strand will be _____.
A. T-A-T-C-G B. T-C-G-C-A C. T-C-T-C-A D. None o these
- (vii) Mednel performed experiment on _____.
A. Brassica B. Lathyrus Odoratus
C. Pisum Sativum D. Lathyrus Aphaea
- (viii) Developing seeds are rich source of _____.
A. Auxins B. Cytokinin C. Gibberellins D. All of these
- (ix) In a Grassland food chain, what is the **CORRECT** sequence?
A. Caterpillar – Blue Bird – Green Leaves – Eagle
B. Green Leaves – Caterpillar – Blue Bird – Eagle
C. Eagle – Caterpillar – Green Leaves – Blue Bird
D. Green Leaves – Blue Bird – Caterpillar – Eagle
- (x) The Hindbain of man consists of _____.
A. Cerebrum B. Thalamus C. Hypothalamus D. None of these
- (xi) Malpighian tubules are used for excretion in _____.
A. Planaria B. Insects C. Earthworm D. Hydra
- (xii) Any Qualitative or Quantitative change in environment detected by an organism is a / an _____.
A. Effector B. Impulse C. Stimulus D. Response
- (xiii) Thyroid glands produce _____.
A. T3, T4 and calcitonin B. Calcitonin
C. Tri-iodothyronine D. Tetraiodothyronine
- (xiv) Excretory organs in planaria are known as _____.
A. Nerve Cells B. Flame Cells C. Germ Cells D. None of these
- (xv) The Mammalian Testes are made up of a large number of _____.
A. Epididymis B. Seminiferous Tubules
C. Fallopian Tubules D. Uriniferous Tubules
- (xvi) Muscle Fibre contacts on receiving the Nerve Impulse which is carried from the Sarcolemma to every Myofibril by the _____.
A. Myofilaments B. Tubules
C. Sarcoplasmic Reticulum D. Calcium Ions
- (xvii) The first seven Vertebrae of the Neck are known as _____.
A. Cervical Vertebrae B. Lumber Vertebrae
C. Sacral Vertebrae D. Caudal Vertebrae

For Examiner's use only:

Total Marks:

17

Marks Obtained:

2017



BIOLOGY HSSC-II

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Time allowed: 2:35 Hours

Total Marks Sections B and C:

NOTE:- Answer any fourteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

SECTION – B (Marks 42)

- Q. 2 Attempt any FOURTEEN parts. The answer to each part should not exceed 3 to 4 lines. (14 x 3 = 42)
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| (i) | Differentiate between Renewable and Non Renewable Resources. | 03 |
| (ii) | Name three zones of Lake Ecosystem. | 03 |
| (iii) | What is Grazing? Also write its effects. | 03 |
| (iv) | What do you know about Autecology and Synecology? | 03 |
| (v) | What are Vestigial Organs? Give three examples. | 03 |
| (vi) | What is Neo-Darwinsim? | 03 |
| (vii) | Who used the term Totipototent and for what? | 03 |
| (viii) | The deficiency of Insulin leads to a disease known a Diabetes Mellitus. | |
| | a. Name the cells of Islets of Langerhans which produce Insulin. | 01 |
| | b. What is Mody? | 02 |
| (ix) | Define the following: | 03 |
| | a. Apoptosis b. Necrosis c. Karyokinesis | |
| (x) | Differentiate between Down's Syndrome and Klinefelter's Syndrome. | 03 |
| (xi) | The sequence of changes within the cell is known as Cell Cycle. | |
| | a. What is Interphase? b. Define Mitotic apparatus | 1½ + 1½ |
| (xii) | Genetic codes are important for hereditary transmission. | |
| | a. Differentiate between Codon and Anticodon. | 01 |
| | b. For what are Marshall Nirenberg and Philip Leader famous? | 02 |
| (xiii) | Write briefly about Syphilis and Gonorrhoea. | 03 |
| (xiv) | What is Aging? | 03 |
| (xv) | Write briefly about the following: | 03 |
| | a. Chemoreceptors b. Mechanoreceptors c. Nociceptors | |
| (xvi) | What role do Auxins and Gibberellins play in the growth and development of a plant? | 03 |
| (xvii) | Briefly write about the following modes of movement: | 03 |
| | a. Plantigrade b. Digitigrade c. Unguligrade | |
| (xviii) | In Arthropods Exoskeleton is present which protects the animals against their enemies and rough environment. Explain the process known as "Ecdysis or Moulting". | 03 |
| (xix) | Briefly write about the two types of Dialysis. | 03 |

SECTION – C (Marks 26)

Note:- Attempt any TWO questions. All questions carry equal marks. (2 x 13 = 26)

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| Q. 3 | Draw a labelled diagram of a Vertebrate Nephron with all blood supply. State the function of the parts. | 13 |
| Q. 4 | a. Explain the morphology of Skeletal Muscle Fibre. | 07 |
| | b. What do you know about the relationship between CA ⁺ IONS and Myofilamets (Actin and Myosin)? | 06 |
| Q. 5 | The study of animal behaviour is known as Ethology. | |
| | a. Differentiate between Instinctive and Learning Behaviour. | 04 |
| | b. Describe the following types of Learning behaviour: | |
| | (i) Habituation (ii) Imprinting (iii) Latent Learning | 09 |