Paper Code Number: 4461

2019 (A) Roll No. MTN-12-G1-19

# INTERMEDIATE PART-II (12th CLASS)

## BIOLOGY PAPER-II (NEW SCHEME) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

**Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.**

**Q.No.1**

(1) Bats and humming birds are example of:
(A) Ectotherms (B) Endotherms (C) Heterotherms (D) Poikilotherms

(2) Trimethylamine oxide is produced in fishes which are:
(A) Cartilaginous (B) Bony (C) Fresh water (D) Marine water

(3) The inflammatory degenerative disease of joint is:
(A) Arthritis (B) Sciatica (C) Herniation (D) Spondylosis

(4) The cells found in seed coats and nut shells are:
(A) Fibres (B) Sclereides (C) Vessels (D) Trachea

(5) Pavlov performed experiments on dog to prove:
(A) Conditional reflex I (B) Habituation (C) Conditional reflex II (D) Imprinting

(6) Photoperiodism was first studied by Garner and Allard in:
(A) 1918 (B) 1920 (C) 1922 (D) 1924

(7) The increase of level of estrogen stimulates secretion of:
(A) ACTH (B) FSH (C) Progesterone (D) LH

(8) Gray equatorial cytoplasm gives rise to:
(A) Neural tube (B) Gut (C) Muscle cells (D) Larval epidermis

(9) Genetic code for the amino acid methionine is:
(A) AUC (B) UGC (C) CGC (D) AUG

(10) The chromatin material gets condensed by folding and chromosomes appear as thin thread in mitosis at the beginning of:
(A) Interphase (B) Prophase (C) Metaphase (D) Anaphase

(11) The chromatids repel each other during:
(A) Zygotene (B) Pachytene (C) Diplotene (D) Diakinesis

(12) The type of inheritance with same phenotypic and genotypic ratio, in F2:
(A) Dominance (B) Incomplete dominance (C) Epistasis (D) Co-dominance

(13) An antibody made by soybeans can be used for treatment of:
(A) AIDS (B) Hepatitis (C) Herpes simplex (D) Genital herpes

(14) The idea of endosymbiont was purposed by:
(A) Cuvier (B) Lyell (C) Malthus (D) Margulis

(15) Which of the following is macronutrient?
(A) Zinc (B) Iron (C) Sulphur (D) Iodine

(16) Scum in eutriphication is formed by:
(A) Fungi (B) Algae (C) Bacteria (D) Cyanobacteria

(17) Oxides of Nitrogen cause:
(A) Lung Cancer (B) Cough (C) Brain damage (D) Cholera

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INTERMEDIATE PART-II (12th CLASS)

OGY PAPER-II (NEW SCHEME) GROUP-I

E ALLOWED: 2.40 Hours **SUBJECTIVE** MAXIMUM MARKS: 68

TE: - **Write same question number and its part number on answer book, as given in the question paper.**

## SECTION-I

**Attempt any eight parts.** 8 × 2 = 16

(i) Write two adaptations of hydrophytes.
(ii) What are heat shock proteins?
(iii) Why temperature of the body increases during fever?
(iv) How muscle fatigue is produced?
(v) Differentiate between tendons and ligaments.
(vi) What is herniation of disc?
(vii) Write two primary goals of human genome project.
(viii) What is Probe? Give its use.
(ix) Differentiate between weather and climate.
(x) Define productivity of an ecosystem.
(xi) Write two effects of acid rain.
(xii) Define soil and write its constituents.

**Attempt any eight parts.** 8 × 2 = 16

(i) Write down two commercial applications of Gibberellins.
(ii) Write down two major functions of mid brain.
(iii) What are the abnormalities caused by the destruction of the adrenal cortex?
(iv) Write down few words on Genital Herpes.
(v) Write down the name of interstitial hormone. What are its functions?
(vi) Define Parthenocarpy. Write down the names of two fruits in which it occurs.
(vii) Define Jumping Genes.
(viii) Differentiate qualitative traits from quantitative traits.
(ix) What are compound sex chromosomes? Give an example.
(x) What is Biome? Write down the names of two terrestrial biomes.
(xi) Define autecology and synecology.
(xii) What are root modules? Give an example.

**Attempt any six parts.** 6 × 2 = 12

(i) What is the difference between inhibitory effect and compensatory effect?
(ii) Differentiate between growth and development.
(iii) What is metastasis?
(iv) What happens during metaphase I?
(v) Give two measures to protect the endangered species.
(vi) Define homologous organs with an example.
(vii) Define central dogma.
(viii) What are Okazaki fragments?
(ix) Define karyotype.

## SECTION-II

NOTE: - **Attempt any three questions.** 3 x 8 = 24

(a) Give an account of Excretion in Planaria. 4
(b) Write a note on Grazing. 4

(a) Define paratonic movements in plants. Describe Nastic movements in detail. 4
(b) How did Meselson and Stahl show that DNA replication is semi-conservative? 4

(a) Discuss hormones of anterior lobe of pituitary gland. 4
(b) Explain the terms deforestation and afforestation. 4

(a) Write a note on Birth. 4
(b) Define and explain incomplete dominance in plants. 4

(a) Write comprehensive note on growth correlations. 4
(b) State and explain the Hardy-Weinberg theorem. 4

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2019 (A) Roll No. MTN-12-G2-19

INTERMEDIATE PART-II (12th CLASS)

LOGY PAPER-II (NEW SCHEME) GROUP-II

ME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

**Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.**

Q.No.1

(1) ADH affects which part of nephron? (A) Walls of collecting duct
(B) Glomerulus (C) Walls of loop of Henle (D) Proximal convulated tubule

(2) Hag fishes are:
(A) Osmoregulators (B) Isotonic (C) Hypertonic (D) Hypotonic

(3) All of the following are associated with coxal bone except:
(A) Ilium (B) Ischium (C) Pubis (D) Clavicle

(4) The angular thickening in primary wall of cell is present in:
(A) Parenchyma (B) Collenchyma (C) Sclerenchyma (D) Sieve tubes

(5) Which type of light promote germination of Fern spores?
(A) Green (B) Red (C) Blue (D) White

(6) Temperature around $4^0C$ stimulates the production of:
(A) Florigen (B) Vernalin (C) Auxins (D) Ethene

(7) The stage that lasts for days, weeks or even years:
(A) Leptotene (B) Zygotene (C) Pachytene (D) Diplotene

(8) Cell death due to tissue damage is called:
(A) Apoptosis (B) Metastasis (C) Necrosis (D) Suicide

(9) The simplest form of learning behaviour is:
(A) Imprinting (B) Habituation (C) Insight learning (D) Latent learning

(10) In which developmental stage, germ layers are formed?
(A) Cleavage (B) Blastula (C) Gastrula (D) Organogenesis

(11) Which strand of DNA is transcribed?
(A) Coding (B) Sense (C) Template (D) Both strands

(12) The type of inheritance with same phenotypic and genotypic ratio, in F2:
(A) Dominance (B) Epistasis (C) Incomplete dominance (D) Co-dominance

(13) The children with "SCID" lack an enzyme: (A) $\alpha$ – galactosidase
(B) Phenylalanine hydroxylase (C) Adenosine deaminase (D) Succinic dehydrogenase

(14) Hamologous structures represent:
(A) Convergent evolution (B) Analogy (C) Divergent evolution (D) Functional similarity

(15) Limnetic phytoplankton includes:
(A) Bacteria (B) Algae (C) Mosses (D) Cyanobacteria

(16) Study of single population's relationship to environment is:
(A) Autecology (B) Synecology (C) Ecology (D) Community ecology

(17) The cause of Kwashiorkor disease is:
(A) Pathogen (B) Metabolic disorder (C) Nutritional deficiency (D) Aging

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INTERMEDIATE PART-II (12th CLASS)

OLOGY PAPER-II (NEW SCHEME) GROUP-II

IME ALLOWED: 2.40 Hours SUBJECTIVE MAXIMUM MARKS: 68

**NOTE: - Write same question number and its part number on answer book, as given in the question paper.**

## SECTION-I

2. **Attempt any eight parts.** 8 × 2 = 16

(i) Write at least two important characters of Hydrophytes.
(ii) Differentiate between Osmoconformer and Osmoregulators.
(iii) What is Pyrogen? Give its role.
(iv) How exercise effect the muscle?
(v) What is secondary growth? How it occurs?
(vi) Define Bone. Write the names of cells associated with the bone.
(vii) What are Restriction Endonucleases?
(viii) Define Taq Polymerase. Give its source.
(ix) Differentiate between alpine and boreal forest.
(x) Give the characteristics of profundal zone.
(xi) What is ozone layer?
(xii) Write two disadvantages of Nuclear energy.

3. **Attempt any eight parts.** 8 × 2 = 16

(i) Write any two commercial applications of Gibberellins.
(ii) Describe action of Nicotine on coordination in animals.
(iii) Discuss the role of progesterone in reproductive cycle of human females.
(iv) What is "Fruit set" in plants? Discuss the role of pollen grain in it.
(v) Describe Spermatogenesis-the formation of sperms in human males.
(vi) What is Menupause?
(vii) Write down any four contrasting traits of garden pea studied by G. Mendel.
(viii) What is Over-Dominance?
(ix) Describe XO -- XX type of sex determination.
(x) What do you know about Commensalism?
(xi) Define Predation. Explain it with at least two examples.
(xii) Define Plant Succession.

4. **Attempt any six parts.** 6 × 2 = 12

(i) What is embryonic induction?
(ii) What is Neuvolation?
(iii) What is crossing over?
(iv) Differentiate between Karyokinesis and Cytokinesis.
(v) What is a gene frequency?
(vi) State Hardy-Weinberg theorem.
(vii) Differentiate between Euchromatin and Heterochromatin.
(viii) What is Transcription?
(ix) What is nucleotide and nucleoside?

## SECTION-II

**NOTE: - Attempt any three questions.** 3 x 8 = 24

5.(a) Give a detailed account on excretory system in earthworm. 4

(b) Describe the $N_2$ – cycle. 4

6.(a) What are Joints? Describe their different types. 4

(b) Describe how Hershey and chase prove that DNA is the heredity material? 4

7.(a) Describe the functions of thyroid gland. 4

(b) What is acid rain? State its cause and effects on environment. 4

8.(a) What are different physiological changes occur during the process of birth in human female? 4

(b) Define incomplete dominance. Explain it with an example. 4

9.(a) Describe role of nucleus in development. 4

(b) Describe comparative anatomy and comparative embryology as an evidence of evolution. 4

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