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MRD-12TH 21052025 (A-I)Total Time: 3:00 Hours**Biology (Part-II)**Total Marks: 85

Note: There are three sections in this paper i.e A, B & C.

VERSION: A**Instructions:**

- Please attempt Section-A on the MCOs Answer Sheet only.
- Only black ball point or marker may be used for shading the relevant circle.
- Please make sure that there is no cutting, over writing, erasing, or multiple circles shading.

Time Allowed: 20 Minutes**"Section – A"**Marks: 18**Q.1. Choose the correct option i.e A, B, C or D.**

- Kidney health is described in term of :
 (A) Water retention (B) Rate of filtration (C) Kidney stones (D) Blood clot
- Which of the following is not vestigial:
 (A) Nictitating Membrane (B) Coccyx (C) Appendix (D) Eye
- Receptors sensitive to smell are :
 (A) Mechanical (B) Photo (C) Chemical (D) Geo
- Progesteron is secreted by.
 (A) Zygote (B) Corpus luteum (C) Uterus (D) Follicles
- Ozone layer is present in:
 (A) Troposphere (B) Stratosphere (C) Mesosphere (D) Thermosphere
- The complete set of chromosomal and extra chromosomal genes of an organism is called.
 (A) Gene pool (B) Gene bank (C) Gene library (D) Genome
- Find mismatch.
 (A) Pancreas- Insulin (B) Thyroid Gland – T₃, T₄ (C) Parathyroid Gland- Calcitonin (D) Gonads- Testes, ovaries
- The florescent pigment in the eye of fruit fly is an example of: Bqrc-13168
 (A) Incomplete dominance (B) Over dominance (C) Co- dominance (D) Complete dominance
- Which of the following is used to cut DNA molecule
 (A) DNA polymerase (B) DNA Ligase (C) Lipase (D) Restriction enzymes
- Gonorrhea is a sex disease caused by:
 (A) Virus (B) Bacteria (C) Fungus (D) Parasite
- All of the following are derived from mesoderm except:
 (A) Gonads (B) Blood vessels (C) Liver (D) Enzymes
- Which of the following is start Codon: Bqrc-13168
 (A) AUU (B) AUG (C) UAA (D) GUA
- Lungs are enclosed in membrane sac called:
 (A) Meninges (B) Alveoli (C) Peritoneum (D) Pleura
- Sex of human foetus become apparent in _____ trimester
 (A) 1st (B) 2nd (C) 3rd (D) None
- The discontinuously growing daughter strand during DNA replication is called.
 (A) Lagging strand (B) Leading strand (C) Smooth strand (D) None
- How many nucleotides are present in 12 codons.
 (A) 35 (B) 33 (C) 39 (D) 36
- The structural and functional unit of nervous system is called
 (A) Nephron (B) Nerve (C) Neuron (D) Axon
- Receptors sensitive to touch are:
 (A) Chemical (B) Mechanical (C) Photo (D) None

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MRD-12TH 21052025(A-1)

Total Time: 2.40 Hours

Biology (Part-II)

Total Marks: 67

"Section – B"

Marks: 40

Q-2. Write short answers to any ten (10) of the following parts. All parts carry equal marks:-

- (i) Write note on Synovial joints.
- (ii) What are chemo and Mechano receptors.
- (iii) Write note on hormones secreted by parathyroid gland.
- (iv) What is Imprinting? Bqre-13168
- (v) Write down causes of female infertility?
- (vi) What are the sign and symptoms of aging?
- (vii) What characters of pea plant were studied by Mendel?
- (viii) Describe XY- XX type of sex determination?
- (ix) Discuss initiation phase of DNA replication.
- (x) Elaborate the term "Struggle for Existence."
- (xi) Differentiate between primary and secondary succession.
- (xii) Write down the role of DNA ligase and restriction enzymes in recombinant DNA technology?
- (xiii) Shortly describe procedure of tissue culture.

"Section – C"

Marks: 27

Note: Answer any three (3) questions. All questions carry equal marks:-

- Q-3. Explain the process of gene cloning with the help of recombinant DNA technology. (9)
- Q-4. What is polygenic inheritance? Bqre-13168 Explain its mode of inheritance by taking example in humans. (9)
- Q-5. Describe the process of early cleavage and blastocyst formation. (9)
- Q-6. (i) Describe spermatogenesis. Bqre-13168 (4.5)
(ii) Discuss the use and abuse of any one narcotic drug. (4.5)