



Name _____

1۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

2۔ دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

Roll No _____

3۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time Allowed: 20 Minutes

SECTION – A

Marks : 18

1. The embryonic period, when the baby's brain, spinal cord, heart and other organs begin to form, starts in: ☐ Second week of pregnancy ☒ Fifth week of pregnancy ☐ Eighth week of pregnancy ☐ Twelfth week of pregnancy
2. The three alleles responsible for ABO blood groups are designated as: ☒ I^A , I^B , and i ☐ A, B, and O ☐ I^A , I^B , and I^O ☐ D, d and i
3. Mendel performed dihybrid crosses to study the inheritance of two traits simultaneously and discovered the: ☐ Law of Dominance ☐ Law of Segregation ☒ Law of Independent Assortment ☐ Principle of Linkage
4. The short RNA segments synthesized by primase that provide a starting point for DNA polymerase are called: ☐ Okazaki fragments ☐ Codons ☐ Exons ☒ Primers
5. Polyploidy is commonly found in: ☒ Plants ☐ Animals ☐ Fungi ☐ Bacteria
6. The theory of evolution based on the inheritance of acquired characters was proposed by: ☐ Charles Darwin ☒ Jean Baptiste Lamarck ☐ Alfred Wallace ☐ Gregor Mendel
7. Change in the community structure of an ecosystem over a period of time is: ☐ Nich ☒ Succession ☐ Mutation ☐ Evolution
8. The reason every person has a unique set of RFLPs in that the restriction sites of a particular enzyme are always different in: ☒ Number and distribution ☐ Color and shape ☐ Temperature and pressure ☐ Length and width
9. The use of transgenic bacteria to remove environmental pollutants is known as: ☒ Bioremediation ☐ Bioconversion ☐ Bioaugmentation ☐ Biodegradation
10. During normal, quiet breathing, the mechanism of expiration is primarily characterized as: ☐ Active process ☒ Passive process ☐ Voluntary process ☐ Forced process
11. The maximum number of oxygen molecules that a single haemoglobin molecule can carry is: ☐ One ☐ Two ☐ Three ☒ Four
12. Patients with end-stage renal failure are candidates for: ☐ Dialysis ☒ Kidney transplantation + Dialysis ☐ Blood transfusion ☐ HLA Testing only
13. The characteristic stripes seen in skeletal muscle fibers are called: ☐ Intercalated discs ☐ Myofibrils ☒ Striations ☐ Sarcomere
14. The resting membrane potential (RMP) of a neuron is typically: ☐ +70 mV ☒ -70 mV ☐ -55 mV ☐ 0 mV
15. A trauma patient arrives at the emergency department with a suspected ruptured cerebral blood vessel. The imaging method best suited to quickly identify the bleeding site is: ☐ MRI ☐ EEG ☒ CT Scan ☐ X-rays
16. Animals that show their greatest of activity during darkness are classified as: ☒ Nocturnal ☐ Corpuscular ☐ Diurnal ☐ Tidal
17. A patient diagnosed with syphilis. The physician's best course of treatment is: ☒ Prescribe oral ceftriaxone ☐ Administer Antihistamines ☐ Recommend Bronchodilators ☐ Delay treatment
18. The structure that appears on the dorsal surface of the embryonic disc and establishes the longitudinal axis of the embryo is: ☒ Primitive streak ☐ Notochord ☐ Neural plate ☐ Neural crest

BIOLOGY (New)
Inter Part-II
(Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B

Marks: 40

Q-II Answer any TEN parts. Each part carries FOUR marks.

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|-----|--|---------------|
| 1. | Define sinusitis. List any three causes of sinusitis. Describe the treatment of sinusitis. | 1+1.5
+1.5 |
| 2. | Briefly describe renal corpuscle. How does it help in ultrafiltration? | 2+2 |
| 3. | State the development of disc slip disorder in humans. List four factors that can lead to a herniated disc. | 2+2 |
| 4. | Describe stroke as a vascular disorder. List its types and symptoms. | 1+1+2 |
| 5. | State why skin colour appears darker during pregnancy. Name any three hormones of pituitary gland along with their functions. | 1+3 |
| 6. | Describe aggression as a behavioural activity. List various functions of aggressive behaviour. | 2+2 |
| 7. | Give an outline of the functions of epididymis. Trace the pathway of sperm transfer from testis to outside of urethral orifice. | 2+2 |
| 8. | Give characteristics of X-linked recessive inheritance and list any two examples of X-linked recessive disorders. | 3+1 |
| 9. | Who first describe Klinefelter's syndrome? State any five symptoms of the syndrome and its treatment. | 0.5+2.5
+1 |
| 10. | Define analogous structures. Give one example. State how they provide evidence for convergent evolution. | 1+1.5+
1.5 |
| 11. | What is nuclear energy? Why is nuclear power considered an alternative to fossil fuel power plants? | 1+1.5
+1.5 |
| 12. | Define biotechnology and mycorrhiza. Analyze the role of biotechnology in enhancing mycorrhizal association in plants. | 1+1+2 |
| 13. | Describe live-attenuated vaccines. What are two key advantages of live-attenuated vaccines and what diseases do they protect from? | 2+1+1 |

Section – C

Marks: 27

Note: Attempt any THREE questions. All questions carry equal marks.

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| Q-III | (a) Describe the location of pharynx. Name and explain three parts of pharynx. | 2+3 |
| | (b) Define osmoregulation. Distinguish osmoregulators from osmoconformers. | 1+1.5+1.5 |
| Q-IV | (a) Describe human skull and name all bones present in human skull. | 1+0.5+3.5 |
| | (b) Define learning and habituation. State any three characteristics of learned behaviors. | 2+2 |
| Q-V | (a) Explain different ways for the protection of sensitive parts like brain and spinal cord. | 1+2+2 |
| | (b) Describe thyroid gland and limb abnormalities as disorders during embryonic development. | 2+2 |
| Q-VI | (a) Define reaction mixture and thermal cycler related to PCR. Describe Taq polymerase and the reason for its use in PCR. | 1+1+2
+1 |
| | (b) Describe XY-XX pattern of sex determination. Give examples of organisms in which it occurs. | 1.5+1.5
+1 |