CBSE Class 10 2025 Biology Compartment Question Paper

Time Allowed :3 hours	**Maximum Marks :**80	**Total questions :**38

General Instructions

Read the following instructions very carefully and strictly follow them:

1. This question paper contains 38 questions. All questions are compulsory.
2. This question paper is divided into five Sections – A, B, C, D and E.
3. In Section A, Questions no. 1 to 18 are multiple choice questions (MCQs) andques-tions number 19 and 20 are Assertion-Reason based questions of 1 markeach.
4. In Section B, Questions no. 21 to 25 are very short answer (VSA) type questions, carrying 2 marks each.
5. In Section C, Questions no. 26 to 31 are short answer (SA) type questions,carrying 3 marks each.
6. In Section D, Questions no. 32 to 35 are long answer (LA) type questions carrying 5 marks each.
7. In Section E, Questions no. 36 to 38 are case study based questions carrying 4 marks each.
8. There is no overall choice. However, an internal choice has been provided in 2 questions in Section B, 3 questions in Section C, 2 questions in Section D and 2 questions in Section E.
9. Use of calculators is not allowed.

SECTION-A

1. Long ribbon-like pollen grains are seen in some:

(A) Aquatic plants

(B) Wind-pollinated grasses

(C) Gymnosperms

(D) Bird-pollinated flowers

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2. Estrogen is secreted by:

(A) Corpus luteum

(B) Membrane granulosa of Graafian follicle

(C) Pituitary gland

(D) Germinal epithelium

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3. Amniocentesis is a technique that is used to:

(A) Determine any disease of the heart

(B) Determine any genetic disorder of the foetus

(C) Determine any disorder of the brain

(D) Detect any abnormality in the bone formation

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4. In humans, non-disjunction of the 21^{st} pair of chromosomes leads to:

(A) Acquired Immune Deficiency Syndrome

(B) Klinefelter's Syndrome

(C) Turner's Syndrome

(D) Down's Syndrome

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5. Which one of the following codons has dual function?

(A) AUG

(B) AUC

(C) ACU

(D) ACA

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6. Which one of the following options gives the correct temperature condition and the

mixture of the gaseous components that were used by S.L. Miller in 1953 to prove abiogenesis of life?

(A) CH_4, H_2, NO_2 and water vapour at 1800°C

(B) CH_4, H_2, NH_3 and water vapour at 1800°C

(C) CO_2, H_2, NH_3 and water vapour at 800°C

(D) CH_4, H_2, NH_3 and water vapour at 800°C

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7. The mosquito-borne disease in humans causing chronic inflammation of the lymphatic vessels is:

(A) Elephantiasis

(B) Ascariasis

(C) Ringworm

(D) Amoebiasis

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8. In plants, which one of the following helps in the absorption of phosphorus from soil?

(A) *Glomus*

(B) *Rhizobium*

(C) *Frankia*

(D) *Anabaena*

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9. The most primitive ancestor of humans is:

(A) *Homo habilis*

(B) *Australopithecus*

(C) *Ramapithecus*

(D) *Homo neanderthalensis*

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10. The sequence that controls the copy number of linked DNA in the vector is termed:

(A) Selectable marker

(B) Ori site

(C) Palindromic sequence

(D) Recognition site

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11. Crystals of Bt toxin produced by some bacteria do not kill the bacteria producing them because:

(A) Bacteria are resistant to the toxin

(B) Toxin is immature

(C) Toxin is inactive

(D) Bacteria encloses 'toxin' in a special capsule

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12. The population interaction where one species is harmed and the other is unaffected is:

(A) Amensalism

(B) Commensalism

(C) Parasitism

(D) Predation

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13. Assertion (A): Periodic abstinence is a method in which couples avoid coitus from day 10 to 17 of menstrual cycle.

Reason (R): Periodic abstinence has limited effectiveness because menstrual cycles are not always regular.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

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14. Assertion (A): *Streptococcus pneumoniae* and *Haemophilus influenzae* are responsible for causing infectious diseases in human beings.

Reason (R): A healthy person acquires the infection by inhaling the droplets/aerosols released by an infected person.

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15. Assertion (A): Biotechnology produces transgenic micro-organisms that act as

microfactories for proteins.

Reason (R): To produce proteins for human use like insulin, transgenic microorganisms can be developed.

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16. Assertion (A): Gross primary productivity is always less than net primary productivity.

Reason (R): Rate of synthesis of organic matter by consumers is known as secondary productivity.

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17. The mosquito-borne disease in humans causing chronic inflammation of the lymphatic vessels is:

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(C) Ringworm

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18. In which of the following plants are both male and female flowers born on the same plant and the mode of pollination can be geitonogamy or xenogamy?

(A) Papaya

(B) Date Palm

(C) Maize

(D) Spinach

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19. Which one of the following hormones is secreted by the human placenta that helps in the maintenance of pregnancy?

(A) Relaxin

(B) Human Chorionic Gonadotropin

(C) Oxytocin

(D) Human Placental Lactogen

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20. The periodic abstinence by a couple for family planning should be from:

(A) Day 5 to 10 of menstrual cycle

(B) Day 13 to 15 of menstrual cycle

(C) Day 10 to 17 of menstrual cycle

(D) Day 16 to 20 of menstrual cycle

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21. Select the *incorrect* match from the following:

(A) 45 + XX — Broad palm with characteristic palm crease

(B) 44 + XXY — Overall feminine development

(C) 44 + XO — Sterile females as ovaries are rudimentary

(D) 44 + XY — Normal male

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22. You know that there are twenty different types of naturally occurring amino acids and four different types of bases in the DNA. A combination of 3 such bases code for a specific amino acid. If instead there are 96 different amino acids and 12 different bases in the DNA, then the minimum number of combination of bases required to form a codon is:

(A) 6

(B) 8

(C) 2

(D) 4

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23. The type of bond represented by the dotted line '——' in a schematic polynucleotide chain is:

(A) Hydrogen bond

(B) Peptide bond

(C) N-glycosidic linkage

(D) Phosphodiester bond

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24. In which of the following conditions/diseases is there a substantial increase in the activity of mast cells observed in the human body?

(A) Typhoid

(B) Allergy

(C) Ascariasis

(D) AIDS

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25. *Lactobacillus* that sets milk into curd is categorised as:

(A) Cyanobacteria

(B) Archaebacteria

(C) Chemosynthetic bacteria

(D) Heterotrophic bacteria

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26. Which one of the following transgenic animals is being used to test the safety of the polio vaccine?

(A) Sheep

(B) Goat

(C) Pig

(D) Mice

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27. Restriction Endonuclease – Hind II always cuts DNA molecules at a particular point by recognising a specific sequence of:

(A) Six base pairs

(B) Four base pairs

(C) Seven base pairs

(D) Three base pairs

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28. Which scientist proposed that ”embryo never pass through the adult stages of other animals”?

(A) Alfred Wallace

(B) Thomas Malthus

(C) Karl Ernst von Baer

(D) Ernst Haeckel

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29. The flows of genetic information in central dogma are in which direction?

(A) Protein $\rightarrow$ RNA $\rightarrow$ DNA

(B) RNA $\rightarrow$ DNA $\rightarrow$ Protein

(C) DNA $\rightarrow$ Protein $\rightarrow$ RNA

(D) DNA $\rightarrow$ RNA $\rightarrow$ Protein

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30. Which scientist proposed that "embryo never pass through the adult stages of other animals"?

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31. They are useful to get rid of aphids.

(A) Lady bird

(B) Baculovirus

(C) Dragonfly

(D) Trichoderma

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32. What is the correct name of AI technique in assisted reproductive technologies?

(A) Artificial Injection

(B) Assisted Insemination

(C) Artificial Insemination

(D) Artificial Intelligence

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33. Genes which control α-Thalassemia and β-Thalassemia are present on which number of chromosomes?

(A) On 16 & on 21

(B) On 21 & on 11

(C) On 16 & on 11

(D) On 11 & on 16

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34. Distance between two consecutive base pairs of DNA is _____

(A) 34 nm

(B) 0.34 nm

(C) 0.34×10^{-9} m

(D) both B & C

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35. In a family tree of dinosaurs, which dinosaur was about 20 feet in height & had huge fearsome dagger-like teeth?

(A) Triceratops

(B) Tyrannosaurus

(C) Pteranodon

(D) Stegosaurus

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36. If a person is positive in Widal test, then that person is infected by which pathogen?

(A) Streptococcus pneumoniae

(B) Plasmodium falciparum

(C) Salmonella typhi

(D) Entamoeba histolytica

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37. Which chemical is obtained from microorganism *Aspergillus niger*?

(A) Lactic acid

(B) Acetic acid

(C) Butyric acid

(D) Citric acid

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38. The first r-DNA was constructed in which microorganism?

(A) *E. coli*

(B) *Salmonella typhimurium*

(C) *Vibrio cholera*

(D) *Staphylococci*

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39. Who proposed the competitive exclusion principle?

(A) G. F. Gause

(B) Von Humboldt

(C) Mac Arthur

(D) Verhulst - pearl

40. How many billion tons productivity of oceans?

(A) 55

(B) 70

(C) 155

(D) 170

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41. How many number of biodiversity hotspots in the world right now?

(A) 9

(B) 14

(C) 25

(D) 34

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42. Assertion (A): Apple is false fruit.

Reason (R): Thalamus also contributes to fruit formation in apple.

(A) A & R both are correct. R is correct explanation of A.

(B) A is correct & R is wrong.

(C) A & R both are correct. R is not correct explanation of A.

(D) A is wrong & R is correct.

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43. Which one is not determined in the developing foetus by using amniocentesis?

(A) Sex determination of foetus

(B) Hepatitis

(C) Survivability of the foetus

(D) Haemophilia

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44. If a colour-blind woman marries a person whose mother is colour-blind, then what is the probability of colour blindness in their offspring?

(A) 50%

(B) 100%

(C) 25%

(D) 75%
