
GLOBAL TALENT SEARCH EXAMINATIONS (GTSE)

CLASS -XII

Max Marks: 100
Time: 11:30 to 12:45 p.m.

BIOLOGY

General Instructions: (Read Instructions carefully)

1. All questions are compulsory. First 15 minutes for reading instructions.
2. This paper contains **50 objective type questions**. Each question or incomplete sentence is followed by four suggested answers or completions. Select the one that is the most appropriate in each case and darken the correct alternative on the given answer-column, with a pencil or pen.
3. For each correct answer **2 marks** will be awarded and there is **no negative marking**.
4. No extra sheet will be provided.
5. Use of calculators & mobile is not permitted in examination hall.
6. Use of unfair means shall invite cancellation of the test

Name of the Student : _____

Roll No. :

Centre : _____

Invigilator's Signature : _____

AMITY INSTITUTE FOR COMPETITIVE EXAMINATIONS

DELHI CENTRES: • E-25, Defence Colony New Delhi - 110024. Ph.: 24336143, 24336144.
• B-1/623, 3rd Floor, Main Nazafgarh Road, Janakpuri, New Delhi - 110058. Ph.: 25573111 / 12 / 13 / 14.
East Delhi Centre: Amity International School, Sector-6/HS-1, Vasundhara Youjna, Ghaziabad-201012. Ph.: 95120-2885412/13/14
NOIDA CENTRE: Amity Campus, Sector-44, Noida - 201303. Ph.: 95120-2431839, 2431842
Gurgaon: Amity International School, Sector-46, Gurgaon.

1. Cadmium pollution is associated with
 - (a) Minimata
 - (b) Itai-itai
 - (c) Bloom syndrome
 - (d) Blue-baby syndrome

2. Agamosperous apospory is formation of embryo
 - (a) From egg of embryo sac proliferated from a nucellar cell
 - (b) From egg of embryo sac formed directly from megaspore mother cell
 - (c) Direct from nucellus
 - (d) Direct from integument

3. Which one of the following is the most active RNA polymerase in eukaryotes?
 - (a) RNA polymerase I
 - (b) RNA polymerase II
 - (c) RNA polymerase III
 - (d) All of these

4. Which one of the following has minimum diameter?
 - (a) A DNA
 - (b) B DNA
 - (c) C DNA
 - (d) Z DNA

5. Which of the following is an incorrect statement?
 - (a) In bacteria the translation starts only when transcription is completed
 - (b) Translation on a mRNA begins while transcription is still going on
 - (c) Capping occurs at the 5' end of the mRNA in eukaryotes only
 - (d) The split genes occur in eukaryotes only

6. Which one of the following does polymerisation in 5' to 3' direction and exonuclease activity in both 5' and 3' as well as 3' to 5' direction
 - (a) DNA polymerase I
 - (b) DNA polymerase II
 - (c) DNA polymerase III
 - (d) Exonuclease

- : Rough Space : -

7. Which one of the following reduces the rate of transcription?
(a) Enhancer (b) Silencer (c) Pribnow box (d) G–C box
8. The leader sequence in a mRNA is the
(a) Coding region in the prokaryotes (b) Non-coding region in the prokaryotes
(c) Coding region in the eukaryotes (d) Non-coding region in the eukaryotes
9. Replication of DNA is
(a) Unidirectional in prokaryotes and bidirectional in eukaryotes
(b) Bidirectional in prokaryotes and unidirectional in eukaryotes
(c) Unidirectional in both prokaryotes as well as in eukaryotes
(d) Bidirectional in prokaryotes as well as eukaryotes
10. Biological organization starts with :
(a) Cellular level (b) Organismic level
(c) Atomic level (d) Submicroscopic molecular level
11. Identify the *odd* combination of the habitat and the particular animal concerned :
(a) Sunderbans - Bengal Tiger
(b) Periyar - Elephant
(c) Rann of Kutch - Wild Ass
(d) Dachigam National Park - Snow Leopard
12. In which one of the following the BOD (Biochemical Oxygen Demand) of sewage (S), distillery effluent (DE), paper mill effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order ?
(a) $SE < PE < S < DE$ (b) $PE < S < SE < DE$
(c) $S < DE < PE < SE$ (d) $SE < S < PE < DE$

- : *Rough Space* : -

18. Water holding capacity of a soil is increased due to
- (a) High rainfall (b) Regular irrigation
(c) High content of humus (d) Rich amount of minerals
19. Very good heterosis in maize crop can be obtained by crossing
- (a) Cross pollinating varieties
(b) Inbred lines
(c) Varieties which have shown self-sterility
(d) Varieties which give a very high yield as a result of outbreeding
20. The germination of seed is favoured by
- (a) Red light and P_R (b) Red light and P_{FR}
(c) Far red light and P_R (d) Far red light and P_{FR}
21. Increase of protein content in potato tubers has been possible by the
- (a) A cross between groundnut and potato (b) A cross between soybean and potato
(c) Somaclonal variation (d) Introducing the nif gene into potato
22. XXYY condition denotes
- (a) Supermale (b) Superfemale
(c) Klinefelter syndrome (d) Turner syndrome
23. Which one of the following is incorrect ?
- (a) In diplospory the egg is diploid
(b) In apospory the egg is diploid
(c) Polyembryony is never seen in apomictic embryos
(d) Both (b) and (c)

- : Rough Space : -

24. Endoploidy occurs in the cells of the
(a) Tapetum (b) Nodules (c) Ovules (d) Both (a) and (b)
25. Virus free plant is obtained by culturing which of the following part of an virus infected plant ?
(a) Shoot apex (b) Stem (c) Flower (d) Seed
26. *Bacillus subtilis* and *Aspergillus niger* are regarded as the best source of
(a) Amylases (b) Lactases (c) Proteases (d) Lipases
27. A disease contracted through wounds, accidents and improperly sterilised surgical instruments is
(a) Tetanus (b) Gonorrhoea (c) Mumps (d) Amoebiasis
28. Why the adult stem cells are not preferred over embryonic stem cells though they are as flexible as cells from human embryo?
(a) Stem cells from adults have not been found for all tissues of the body.
(b) They are present in minute quantity and difficult to isolate and purify.
(c) They have less capacity to proliferate.
(d) All of the above.
29. Honey has a high concentration of sugar but doesn't decay, because
(a) It contains natural antioxidant that prevents the bacterial attack
(b) Bacteria can't survive in an active state in a solution of high osmotic strength causing plasmolysis due to exosmosis
(c) Bacteria cannot survive in active states as it is totally deprived of oxygen
(d) None of the above

- : *Rough Space* : -

30. Neoplasms are
- (a) Nuclei with massive DNA
 - (b) Cells without covering membranes
 - (c) Cells capable of unlimited division
 - (d) Newly produced cells formed through uncontrolled cell proliferation
31. Pebrine is a severe disease in silk worm. It is caused by parasite
- (a) *Monocystis*
 - (b) *Entamoeba histolytica*
 - (c) *Trypanosoma*
 - (d) *Nosema bombycis*
32. Blood groups A, B, AB and O occur in humans. The blood groups A and B are found in apes but not in monkeys. This suggests, that
- (a) Human, monkeys and apes are related
 - (b) Human beings are more closely related to apes
 - (c) Human beings are more closely related to monkeys
 - (d) Human beings are more closely related to apes than to monkeys
33. ELISA is used to
- (a) Separate RNA
 - (b) Purify proteins
 - (c) Isolate DNA of different lengths
 - (d) Identify specific proteins
34. Adaptive similarities in different animals living in the same habitat is called as
- (a) Retrogressive evolution
 - (b) Parallel evolution
 - (c) Adaptive radiation
 - (d) Convergent evolution
35. A decrease in the level of oestrogen and progesterone causes
- (a) Growth and dilation of myometrium
 - (b) Loss of endometrium
 - (c) Constriction of uterine blood vessels leading to sloughing of uterine epithelium
 - (d) Release of ovum from the ovary.

- : Rough Space : -

36. Which one of the following is the *correct* statement regarding the particular psychotropic drug specified?
- (a) *Hashish* causes after thought perceptions and hallucinations
 - (b) *Opium* stimulates nervous system and causes hallucinations
 - (c) *Morphine* leads to delusions and disturbed emotions
 - (d) *Barbiturates* cause relaxation and temporary euphoria
37. Messenger molecules secreted by helper T cells, that recruit other WBCs are called
- (a) Interferons
 - (b) Antibiotics
 - (c) Cytotoxins
 - (d) Lymphokines
38. A queen honey bee lays eggs of
- (a) One type from which all castes develop
 - (b) Two types, one forming queen and workers and second forming drones
 - (c) Three type forming queen, drone and workers
 - (d) Unfertilised eggs die while fertilised ones form all castes.
39. Which member of the genus *Homo* has (had) the largest cranial capacity
- (a) *Homo heidelbergensis*
 - (b) *Homo sapiens fossilis*
 - (c) *Homo neanderthalensis*
 - (d) *Homo sapiens sapiens*
40. Which of the following diseases is common among individuals with deficient immune systems?
- (a) Asthma
 - (b) Xeroderma pigmentosum
 - (c) Systemic lupus erythematosus
 - (d) Erythroblastosis foetalis
41. Microevolution can be measured by comparing observed allelic frequencies with those predicted by
- (a) Mendelian ratios
 - (b) Hardy-Weinberg equation
 - (c) Genetic drift
 - (d) All known environmental factors

- : *Rough Space* : -

42. The best way to control human population of a country, is
- (a) To educate people (b) To have better housing
(c) To kill people on a large scale (d) To practice and implement family planning
43. A transgenic organism
- (a) Is a strain developed by crossbreeding
(b) Is produced through artificial fertilization
(c) Has some foreign genes inserted in its genome
(d) Is a thoroughly selected strain for its genotype
44. The function of progesterone present in oral contraceptive pills is
- (a) To inhibit follicular maturation (b) To stop ovulation
(c) To immobilize sperms (d) Statement is incorrect
45. Which of the following is used to manufacture ethanol from starch ?
- (a) *Penicillium* (b) *Saccharomyces* (c) *Azotobacter* (d) *Lactobacillus*
46. The nervous disorders characterised by distorted thoughts, disturbed emotions with incoherent and bizarre behaviour is called
- (a) Epilepsy (b) Schizophrenia (c) Psychosis (d) Parkinsonism
47. Who among the following established the fact that “mitochondria and chloroplast were the separate types of prokaryotes existing independently” ?
- (a) Margulius (b) Sydney fox (c) Oparin (d) Haldane
48. The embryonic development that permits the egg to possess minimum amount of yolk is
- (a) Oviparous
(b) Ovo-viviparous
(c) Viviparous
(d) Amount of yolk in egg and development are not interrelated

- : *Rough Space* : -

49. Match items in columns I and II and pick up the correct sequence

- | | |
|-------------------|---------------------------------|
| A. AIDS | i. <i>Yersinia pestis</i> |
| B. Syphilis | ii. Hepatitis-B virus |
| C. Viral jaundice | iii. <i>Treponema pallidum</i> |
| D. STD | iv. <i>Neisseria gonorrhoea</i> |
| | v. HIV |

- (a) A = v, B – iii, C – ii, D – iv (b) A = v, B – ii, C – iii, D – iv
(c) A = v, B – ii, C – iii, D – i (d) A = v, B – iii, C – i, D – iv

50. Random drift is the elimination of

- (a) Individuals
(b) Chromosomes
(c) Species
(d) Genes of some original characteristics of a species due to epidemics



- : Rough Space : -

ANSWERS : CLASS XII (BIOLOGY)

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (b) | 2. (a) | 3. (b) | 4. (d) | 5. (a) |
| 6. (a) | 7. (b) | 8. (b) | 9. (d) | 10. (d) |
| 11. (b) | 12. (b) | 13. (d) | 14. (a) | 15. (d) |
| 16. (b) | 17. (d) | 18. (c) | 19. (b) | 20. (b) |
| 21. (c) | 22. (c) | 23. (c) | 24. (a) | 25. (a) |
| 26. (a) | 27. (a) | 28. (d) | 29. (b) | 30. (d) |
| 31. (d) | 32. (d) | 33. (d) | 34. (d) | 35. (c) |
| 36. (a) | 37. (d) | 38. (b) | 39. (b) | 40. (c) |
| 41. (b) | 42. (d) | 43. (c) | 44. (b) | 45. (b) |
| 46. (b) | 47. (a) | 48. (c) | 49. (a) | 50. (d) |