Test Paper : **II**

Test Subject : **LIFE SCIENCE**

Test Subject Code : **K-2813**

Test Booklet Serial No. : _____

OMR Sheet No. : _____

Roll No. | | | | | | | | |

(Figures as per admission card)

Name & Signature of Invigilator/s

Signature : _____ Signature : _____

Name : _____ Name : _____

Paper : II

Subject : LIFE SCIENCE

Time : 1 Hour 15 Minutes Maximum Marks : 100

Number of Pages in this Booklet : **8** Number of Questions in this Booklet : **50**

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

1. ಈ ಪುಟದ ಮೇಲ್ತುದಿಯಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ.
2. ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಐವತ್ತು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
3. ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ, ಪ್ರಶ್ನೆಪುಸ್ತಿಕೆಯನ್ನು ನಿಮಗೆನೀಡಲಾಗುವುದು. ಮೊದಲ5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪುಸ್ತಿಕೆಯನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆಕಡ್ಡಾಯವಾಗಿ ಪರೀಕ್ಷಿಸಲು ಕೋರಲಾಗಿದೆ.
   (i) ಪ್ರಶ್ನೆಪುಸ್ತಿಕೆಗೆ ಪ್ರವೇಶಾವಕಾಶ ಪಡೆಯಲು, ಈ ಹೊದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ಟಿಕ್ಕರ್ ಸೀಲ್ ಇಲ್ಲದ ಪ್ರಶ್ನೆಪುಸ್ತಿಕೆ ಸ್ವೀಕರಿಸಬೇಡಿ. ತೆರೆದ ಪುಸ್ತಿಕೆಯನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ.
   (ii) **ಪುಸ್ತಿಕೆಯಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳೆ ನೋಡಿರಿ. ಪುಟಗಳು/ ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವ್ಯತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪುಸ್ತಿಕೆಯನ್ನುಕೂಡಲೆ5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವೀಕ್ಷಕರಿಂದ ಸರಿ ಇರುವ ಪುಸ್ತಿಕೆಗೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಬಳಿಕ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಲಾಗುವುದಿಲ್ಲ, ಯಾವುದೇ ಹೆಚ್ಚು ಸಮಯವನ್ನೂ ಕೊಡಲಾಗುವುದಿಲ್ಲ.**
4. ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೂ (A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದ ನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಿವೆ. ನೀವು ಪ್ರಶ್ನೆಯ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂಡಾಕೃತಿಯನ್ನು ಕಪ್ಪಾಗಿಸಬೇಕು.
   ಉದಾಹರಣೆ: (A) (B) ● (D)
   (C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ.
5. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ I ರಲ್ಲಿ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ, **ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ I ಮತ್ತು ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ II ರಲ್ಲಿ ಇರುವ ಪ್ರಶ್ನೆಗಳಿಗೆ ನಿಮ್ಮ ಉತ್ತರಗಳನ್ನು ಸೂಚಿಸತಕ್ಕದ್ದು.** OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಅಂಡಾಕೃತಿಯಲ್ಲದೆ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಉತ್ತರವನ್ನು ಗುರುತಿಸಿದರೆ, ಅದರ ಮೌಲ್ಯಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.
6. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.
7. ಎಲ್ಲಾ ಕರಡು ಕೆಲಸವನ್ನು ಪುಸ್ತಿಕೆಯ ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು.
8. ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆದರೆ, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗಿರುತ್ತೀರಿ.
9. ಪರೀಕ್ಷೆಯು ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರೀಕ್ಷಾ ಕೊಠಡಿಯ ಹೊರಗೆ OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯ ಕೂಡದು.
10. ಪರೀಕ್ಷೆಯ ನಂತರ, ಪರೀಕ್ಷಾ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಮತ್ತು ನಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.
11. **ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್‌ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.**
12. **ಕ್ಯಾಲ್ಕುಲೇಟರ್ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.**
13. **ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಿಗೆ ಋಣ ಅಂಕ ಇರುವುದಿಲ್ಲ.**

Instructions for the Candidates

1. Write your roll number in the space provided on the top of this page.
2. This paper consists of fifty multiple-choice type of questions.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
   (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal and do not accept an open booklet.
   (ii) **Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.**
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.
   Example : (A) (B) ● (D)
   where (C) is the correct response.
5. Your responses to the questions are to be indicated in the **OMR Sheet kept inside the Paper I Booklet only**. If you mark at any place other than in the ovals in the Answer Sheet, it will not be evaluated.
6. Read the instructions given in OMR carefully.
7. Rough Work is to be done in the end of this booklet.
8. If you write your name or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.
9. You have to return the test OMR Answer Sheet to the invigilators at the end of the examination compulsorily and must NOT carry it with you outside the Examination Hall.
10. You can take away question booklet and carbon copy of OMR Answer Sheet soon after the examination.
11. **Use only Blue/Black Ball point pen.**
12. **Use of any calculator or log table etc., is prohibited.**
13. **There is no negative marks for incorrect answers.**

LIFE SCIENCE

Paper – II

Note : This paper contains **fifty (50)** objective type questions. **Each** question carries **two (2)** marks. **All** questions are **compulsory**.

1. Major factor which creates ocean and air current is
(A) sunlight
(B) temperature
(C) storm
(D) moon

2. Nitrate pollution is aquatic habitats results in
(A) enhancement in carbon cycle
(B) eutrophication
(C) sediment accumulation
(D) silting

3. Evolution in which two species from different geneologies resemble each other is known as
(A) Homology
(B) Convergent evolution
(C) Recapitulation
(D) Adaptation

4. The following is a living fossil
(A) Dodo
(B) Salamander
(C) Mammoth
(D) Archaeopteryx

5. Extinction of life occurred relatively high during
(A) Cretaceous era
(B) Mesozoic era
(C) Cenozoic era
(D) Paleozoic era

6. One map unit is equal to
(A) 10% cross over
(B) 1% cross over
(C) 0.1% cross over
(D) 50% cross over

7. Electrophoresis of histones and myoglobin under non-denaturing conditions (pH = 7.0) results in
(A) Both proteins migrate to Anode
(B) Histones migrate to anode and myoglobin migrates to cathode
(C) Histones migrate to cathode and myoglobin migrates to anode
(D) Both proteins migrate to cathode

8. The genetic relatedness between two workers in a honey bee colony
(A) 1
(B) 0
(C) 0.5
(D) 0.75

9. In u_{82}^{238} the number of neutrons are
(A) 238 (B) 82
(C) 156 (D) 320

10. Structurally galactose and glucose are
(A) epimer
(B) anomers
(C) allomers
(D) not related in structure

11. Effect of enzyme on a reversible reaction
(A) decreases the free energy of a reaction
(B) increases the rate of forward reaction
(C) makes the reaction reach equilibrium faster
(D) changes the direction of a reaction

12. In anaerobic glycolysis the ATPs utilized and ATPs produced and net ATPs can be represented as follows
(A) $-2+4=+2$ (B) $-2+2=0$
(C) $0+2=+2$ (D) $-2+38=36$

13. Heterochromatinized, non-homologous smallest chromosome is
(A) Autosome
(B) B-chromosome
(C) Sex chromosome
(D) Ring chromosome

14. Which structure serves to facilitate the flow of signaling molecules through a series of cells ?
(A) Tight junction
(B) Gap junction
(C) Belt desmosome
(D) Lipid

15. Meiotic cell division results in two cells that have
(A) n chromosomes are genetically identical
(B) n chromosomes are genetically different
(C) 2n chromosomes are genetically identical
(D) 2n chromosomes are genetically different

16. Degeneracy of the code means
(A) amino acids with overlapping code
(B) more amino acids with identical codon
(C) amino acids with more than one codon
(D) amino acids with only one codon

17. Chargaff found that for DNA
(A) $A + C = G + T$
(B) $A + T = G + C$
(C) $A + G = T + C$
(D) $A/G = C/T$

18. A cell adhesion molecules which bird the epithelial cells are termed as
(A) E – CAM (B) N – CAM
(C) Selectin (D) E – P CAM

19. Which of the following is a down stream event in signal transduction ?
(A) IP3 generation
(B) NFKB activation
(C) Stat – activation
(D) Phosphorylation

20. _____ are the hidden switches of apoptosis.
(A) Kinases
(B) Caspeses
(C) Lipases
(D) Phosphatases

21. The endoderm of an embryo gives rise to
(A) the nervous system
(B) muscles, blood and bone
(C) the lining of digestive system
(D) the reproductive system

22. _____ phylum has gills, book lungs and tracheae as their respiratory organs.
(A) Annelida (B) Arthropoda
(C) Mollusca (D) Helminthes

23. Nerve fibers connecting ganglia of the same region
(A) Commissure
(B) Connective
(C) Connectin
(D) Connector

24. In born errors are generally due to
(A) Dominant mutations
(B) Recessive mutations
(C) Multifactorial mutations
(D) Non-Sense mutations

25. Generally inversions are
(A) Crossing over enhancer
(B) Crossing over inducer
(C) Crossing over suppressor
(D) Crossing over promoter

26. A pair of contrasting characters in F1 generation is
(A) Mixed (B) Recombined
(C) Segregated (D) Donot blend

27. Linkage in Drosophila is
(A) Complete in both males and females
(B) Complete in males and incomplete in females
(C) Incomplete in both males and females
(D) Complete in females and incomplete in males

28. Pattern of baldness in man is a
(A) sex-limited trait
(B) sex-linked trait
(C) sex-influenced trait
(D) non-heritable trait

29. The F+ segment of bacteria may be transferred to F – bacteria by the process of _____
(A) Conjugation
(B) Transduction
(C) Transformation
(D) Fragmentation

30. Selection for a higher or lower value of a character than its existing mean is known as
(A) density dependent selection
(B) directional selection
(C) kin selection
(D) group selection

31. C-value paradox means a lack of correlation between
(A) the number of genes and number chromosomes in organisms
(B) the complexity of an organism and its genome size
(C) the complexity of an organism and its number of genes
(D) the complexity of an organism and its number of chromosomes

32. Repeat cose sequences consisting of 2, 3 or 4 base pairs are known as
(A) Single Nucleotide Polymorphisms (SNPs)
(B) Minisatellites
(C) Microsatellites
(D) Satellites

33. Microscopy which directly produces an image of three dimentional structure of the surface of a specimen is

(A) Compound microscope

(B) Phase contrast microscope

(C) Confocal microscope

(D) Transmission microscope

34. The five Kingdom classification was proposed by

(A) R. H. Whittekar

(B) C. Linnaeus

(C) A. Roxberg

(D) Herbert Copeland

35. The protists have

(A) only free nucleic acid aggregates

(B) membrane bound nucleoproteins lying embedded in the cytoplasm

(C) gene containing the nucleoprotein condensed together in loose mass

(D) nucleoprotein in direct contact with the rest of the cell substance

36. How many structural genes are found in arabinose operon ?

(A) 5

(B) 6

(C) 4

(D) 3

37. The deposition of DNA oligonucleotides on to an inert substrate such as glass silicon

(A) Probe

(B) Microarray

(C) Finger print

(D) Sequence

38. Immediate hypersensitivities are mediated by

(A) Allergens

(B) Macrophages

(C) Humoral antibodies

(D) T Cells

39. The process where one cell or group of cells change the developmental fate of another is called

(A) Induction

(B) Differentiation

(C) Committment

(D) Imprinting

40. Which of the following is required for the morphogenesis of Dictyostelium ?

(A) ATP

(B) GTP

(C) C – AMP

(D) GMP

41. Which of the following plasma protein is not made in liver ?

(A) Celluloplasmin

(B) Insulin

(C) APO – Al

(D) Albumin

42. Which of the following is not involved in controlling the heart ?

(A) Pacemaker

(B) Adrenal gland

(C) Vasomotor center in medulla

(D) Thymus gland

43. According to Darwinian theory unit of evolution is

(A) Individual

(B) Social group

(C) Population

(D) Species

44. A lethal gene has a selection coefficient of

(A) 1.0

(B) 0

(C) 0.5

(D) 0.1

45. In which growth phase cells show confluency ?

(A) Log

(B) Plateu

(C) Lag

(D) M phase

46. Which of the following is involved in gene silencing ?

(A) t-RNA

(B) miRNA

(C) r-RNA

(D) m-RNA

47. During pre-m-RNA splicing which Sn RNA first binds to 5′ end splice site of RNA

(A) U_2

(B) U_1

(C) U_5

(D) U_6

48. Isotopes popularly known to have been used in study of photosynthesis

(A) C^{16} and N^{15}

(B) C^{14} and O^{16}

(C) P^{32} and C^{12}

(D) C^{11} and P^{32}

49. Which of the following is not true for facilitated diffusion ?

(A) Requires cellular energy for the transport of substances

(B) Requires a special carrier molecule to move substances across the membrane

(C) Allows only nonpolar molecules not the ions

(D) Shows hyperbolic kinetics

50. Match the following :

List – I	**List – II**
I) Carcinoma	1) Mesenchyma
II) Sarcoma	2) Skin
III) Adenoma	3) Epithelium
IV) Melanoma	4) Blood
	5) Glands

	I	**II**	**III**	**IV**
(A)	1	4	2	3
(B)	3	1	5	2
(C)	2	4	1	5
(D)	5	2	3	1

ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ
Space for Rough Work

ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ
Space for Rough Work