Test Paper : **III**

Test Subject : **LIFE SCIENCE**

Test Subject Code : **K-2814**

Test Booklet Serial No. : _____

OMR Sheet No. : _____

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

(Figures as per admission card)

Name & Signature of Invigilator/s

Signature : _____ Signature : _____

Name : _____ Name : _____

Paper : III

Subject : LIFE SCIENCE

Time : 2 Hours 30 Minutes Maximum Marks : 150

Number of Pages in this Booklet : **16** Number of Questions in this Booklet : **75**

ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು

1. ಈ ಪುಟದ ಮೇಲ್ತುದಿಯಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ.
2. ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಎಪ್ಪತ್ತೈದು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.
3. ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ, ಪ್ರಶ್ನೆಪುಸ್ತಿಕೆಯನ್ನು ನಿಮಗೆನೀಡಲಾಗುವುದು. ಮೊದಲ5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪುಸ್ತಿಕೆಯನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ 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 ಪುಸ್ತಿಕೆಯನ್ನು ಕೂಡಲೆ5 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. ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಗಳನ್ನು, **ಪತ್ರಿಕೆIII ಪುಸ್ತಿಕೆಯೊಳಗೆ ಕೊಟ್ಟಿರುವ** OMR **ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸತಕ್ಕದ್ದು.** OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿನ ಅಂಡಾಕೃತಿ ಹೊರತುಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ 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 seventy five 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 question of Paper III are to be indicated in the **OMR Sheet kept inside the Booklet**. If you mark at any place other than in the ovals in OMR 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 – III

Note : This paper contains **seventy-five (75)** objective type questions. **Each** question carries **two (2)** marks. **All** questions are **compulsory**.

1. Polytene chromosomes are found in

(A) Metaphase I

(B) Prophase I

(C) Interphase

(D) Leptotene stage

2. The differentiated part of the chromosome which gets associated with spindle fibers during cell division is

(A) Telomere

(B) Centriole

(C) Kinetochore

(D) Centrosome

3. TATA boxes and Pribnow boxes are components of

(A) Operators

(B) Enhancers

(C) Promoters

(D) Activators

4. Segmentation genes in *Drosophila* are divided into three groups-gap, pair rule and segment polarity, based on their mutant phenotype. Which of the following sequences of genes expressed from early to late embryo is correct ?

(A) *hairy* $\rightarrow$ *paired* $\rightarrow$ *patched* $\rightarrow$ *tailless*

(B) *hunchback* $\rightarrow$ *even-skipped* $\rightarrow$ *fushi tarazu* $\rightarrow$ *wingless*

(C) *odd* $\rightarrow$ *skipped* $\rightarrow$ *giant* $\rightarrow$ *paired* $\rightarrow$ *wingless*

(D) *tailless* $\rightarrow$ *hairy* $\rightarrow$ *fushi tarazu* $\rightarrow$ *gooseberry*

5. During urine formation, the filtration of blood at the glomerulus is

(A) An active process

(B) An osmotic process

(C) A pressure-dependent physical process

(D) a non energy-mediated transport process

6. A technique for visualizing chromosome aberrations using fluorescent labelled DNA probes which are hybridized to chromosomal DNA

(A) Karyotyping

(B) G banding

(C) Chromosome painting

(D) ELISA

7. When two mutants having the same phenotype were crossed, the progeny obtained showed a wild phenotype. Thus the mutations are

(A) segregating from each other

(B) non allelic

(C) allelic

(D) independently assorting

8. In humans, the haploid number of chromosomes is 23. By independent assortment, how many possible different gametes can be produced ?

(A) 23^2

(B) 22^3

(C) 24

(D) 23^{23}

9. Lethal autosomal dominant trait with complete penetrance has a population frequency of 1 : 50000. What is the rate of new mutation ?

(A) 1/150000

(B) 1/100000

(C) 1/50000

(D) 1/25000

10. The correct order of performing DNA profiling is

(A) DNA isolation $\rightarrow$ PCR amplification $\rightarrow$ electrophoresis $\rightarrow$ southern blotting $\rightarrow$ autoradiography $\rightarrow$ analysis of DNA pattern

(B) DNA isolation $\rightarrow$ restriction digestion $\rightarrow$ PCR amplification $\rightarrow$ electrophoresis $\rightarrow$ southern blotting $\rightarrow$ autoradiography $\rightarrow$ analysis of DNA pattern

(C) DNA isolation $\rightarrow$ PCR amplification $\rightarrow$ restriction digestion $\rightarrow$ electrophoresis $\rightarrow$ southern blotting $\rightarrow$ autoradiography $\rightarrow$ analysis of DNA pattern

(D) DNA isolation $\rightarrow$ restriction digestion $\rightarrow$ PCR amplification $\rightarrow$ southern blotting $\rightarrow$ electrophoresis $\rightarrow$ autoradiography $\rightarrow$ analysis of DNA pattern

11. Uptake of naked DNA by a bacterium is

(A) Transduction

(B) Transfection

(C) Conjugation

(D) Transformation

12. Which part of the chromosome is involved in aging ?

(A) Kinetochore

(B) Chromocenter

(C) Centromere

(D) Telomere

13. Name the techniques to identify cells involved in transcription

(A) Northern blots and Restriction digestion

(B) PCR and Restriction digestion

(C) Northern blots and in situ hybridization

(D) In situ hybridization and Restriction digestion

14. The formation of the acrosome

(A) Occurs in the epididymis

(B) Involves the maturation of lysosomal enzymes

(C) Involves mitotic activity

(D) Involves meiotic divisions

15. The primary regulator of Leydig cell secretion is

(A) Follicle Stimulating Hormone (FSH)

(B) Luteinizing Hormone (LH)

(C) FSH releasing factor

(D) Inhibin

16. During oxidative phosphorylation in mitochondria synthesis of ATP occurs due to

(A) Oxidation of glucose by glycolysis

(B) Electrochemical proton gradient

(C) Oxidation of NADH to NAD+

(D) Oxidation of pyruvate to acetyl CoA

17. Copper is associated with which of the following mitochondrial enzymes ?

(A) Cytochrome oxidase

(B) Succinate dehydrogenase

(C) Catalase

(D) Acid Phosphatase

18. Enzymes, vitamins and hormones are common in

(A) Being proteinaceous

(B) Being synthesized in the body of organisms

(C) Enhancing oxidation metabolism

(D) Regulating metabolism

19. BRACA I and BRACA II are involved in diagnosis of

(A) Breast Cancer

(B) Myeloma

(C) Carcinoma

(D) Teratoma

20. Carcinomas are tumours of

(A) Hematopoietic system

(B) Lymph nodes

(C) Epithelial cells

(D) Connective tissues

21. Replica plating is used to detect

(A) Mutant colony

(B) Aerobic Bacteria

(C) Blue white colony

(D) Normal cells

22. The female sex organ of *Batrachospermum* is called as

(A) Oogonium

(B) Carpagonium

(C) Female conceptacle

(D) Female cryptoblast

23. During the dark reaction of photosynthesis is cyanobacteria

(A) Water is split

(B) CO_2 is reduced to organic compound

(C) Chlorophyll is activated

(D) 6-C sugar broken into 3-C sugar

24. The net gain of ATP molecules in glycolysis

(A) Zero

(B) Two

(C) Four

(D) Eight

25. The etiological agent responsible for tikka disease of ground nut is

(A) *Cercospora sp.*

(B) *Alternaria sp.*

(C) *Xanthomonas sp.*

(D) *Pucunia sp.*

26. The chromosomes appear as beaded structure at

(A) Leptotene

(B) Pachytene

(C) Diakinesis

(D) Telophase I

27. Which of the following bacteria convert nitrites to nitrates ?

(A) *Nitrosomonas*

(B) *Chromatium*

(C) *Nitrobacter*

(D) *Chlorobium*

28. The plant cell differs from the animal cell in the absence of

(A) Endoplasmic reticulum

(B) Ribosomes

(C) Mitrochondria

(D) Centrioles

29. According to Baltimore system of classification positive-sense single stranded RNA virus belongs to which of the following groups ?

(A) Group IV

(B) Group III

(C) Group II

(D) Group I

30. Bacterial blight of Paddy is caused by

(A) *Xanthamonas oryzae*

(B) *Xanthamonas compestris*

(C) *Xanthamonas malvacearum*

(D) *Erwinia amylovora*

31. The etiological agent of Head smut of sorghum is

(A) *Cercospora arachidicola*

(B) *Pyricularia grysea*

(C) *Sclerospora graminicola*

(D) *Sphacelotheca sorghi*

32. An antigen is

(A) A highly specific protein produced by the body in response to a foreign body

(B) A chemical that inhibits the growth of microorganisms

(C) An antibody produced by the body that stimulates the production of antibodies by the body's immune system

(D) A chemical/biological substance that stimulates the production of antibodies by the body's immune system

33. Cancerous cells are destroyed by the following type of cell

(A) Macrophages

(B) NK cells

(C) Neutrophils

(D) Eosinophils

34. Phagocytosis may be characterized by which of the following statements ?

(A) It involves fluid uptake by small vesicles

(B) It involves the uptake of cellular debris in large endocytic vesicles

(C) It is not important in digestive process in mammals

(D) It is a constitutive process

35. Consider the following statements : IS elements are

1) Cut and paste transposons

2) These are sequence of DNA in genome of prokaryotes

3) These sequences are parasites of host genome

Which of the above statements are correct ?

(A) 1 and 2 are correct

(B) 3 and 1 are correct

(C) 2 and 3 are correct

(D) 1, 2 and 3 are correct

36. Which of the following is not involved in DNA damage repair ?

(A) Excision repair

(B) Recombinational repair

(C) SOS repair

(D) RNA polymerase

37. Multigene families evolve through

(A) Only gene duplication

(B) Random mutations

(C) Only unequal crossing-over

(D) Both duplication and unequal crossing

38. Antibiotic resistance among bacteria represents

(A) Balancing selection

(B) Stabilizing selection

(C) Directional selection

(D) Disruptive selection

39. MHC class I molecules presents peptides to T-cells in which pathway ?

(A) Endocytic

(B) Humoral

(C) Complement

(D) Endogenous

40. What is the meaning of Molecular clock ?

(A) Rate of DNA or protein sequence evolution is constant over time or among evolutionary lineages

(B) Rate of only protein sequence evolution is constant over time or among evolutionary lineages

(C) Rate of only DNA sequence evolution is constant over time or among evolutionary lineages

(D) Rate of DNA or protein sequence evolution is not constant over time or among evolutionary lineages

41. Blue tongue virus causes high mortality among

(A) Fish

(B) Human

(C) Sheep

(D) Poultry

42. Gondwana land includes the following

(A) North America

(B) Europe

(C) Antarctica

(D) India

43. Which of the following cannot be diagnosed by amniocentesis ?

(A) Down syndrome

(B) Cystic fibrosis

(C) Sickle cell anemia

(D) Polio

44. Which of the following plant that existed abundantly during Mesozoic era is considered as a living fossil ?

(A) *Ginkgo biloba*

(B) *Pinus*

(C) *Taxus*

(D) *Glossopteris*

45. Plant movements that take place in response to contact stimulus is called

(A) Thigmotrophic movement

(B) Thermonastic movement

(C) Chemotrophic movement

(D) Hydrotrophic movement

46. Which of the following statement does not relate to hydrogen bonds ?

(A) A hydrogen bond takes place between an electron deficient hydrogen and an electron rich heteroatom

(B) Weaker than electrostatic interactions but stronger than van der Waals interactions

(C) The electron deficient hydrogen is called a hydrogen bond donor

(D) Water molecules interact with each other and form an ordered layer next to hydrophobic regions

47. The termination of DNA replication occurs

(A) At stop codon

(B) When replication fork reaches *Ter* sequence

(C) After formation of *Tus-Ter* complex

(D) At *Ori-C*

48. The binding of RNA polymerase to DNA can be established by

(A) Fingerprint analysis

(B) Footprint analysis

(C) Western blot analysis

(D) Northern blotting

49. During translation the 30S initiation complex formation does not involve

(A) fMet-tRNA$_f^{Met}$

(B) mRNA

(C) IF-3

(D) eIF-3

50. The maintenance of lysogeny is mediated by gene products of

(A) *cI*

(B) *N*

(C) *cro*

(D) *cIII*

51. Metagenomics deals with

(A) Culture independent analysis of biodiversity

(B) Isolation of soil bacteria

(C) Study of metabolic genes

(D) Study of proteins

52. Bacteria respond to oxidative stress by production of

(A) Super Oxide Dismutase

(B) Phytochelatin

(C) Sucrose

(D) Protamine

53. ESR spectroscopy provides information on

(A) Metal concentration in solutions

(B) Neutrons in an element

(C) Free radicals

(D) Molecular structure

54. Which of the following statement about succession is correct ?

(A) Secondary succession occurs where no soil exists

(B) Primary succession occurs in areas where soil remains after a disturbance

(C) Secondary succession can occur where a disturbance has left soil intact

(D) Some cases of succession involve facilitation, a phenomenon in which local species inhibit the growth of newcomers

55. If two populations are merged, each with different frequencies of an allele at a locus and randomly mating occurs immediately, how long will it take to achieve Hardy-Weinberg equilibrium in the new population ?

(A) One generation

(B) Ten generation

(C) Depends on the allele frequencies

(D) Never

56. Multi-gene families evolve through

(A) Only gene duplication

(B) Random mutations

(C) Only unequal crossing-over

(D) Both duplication and unequal crossing

57. Antibiotic resistance among bacteria represents

(A) Balancing selection

(B) Stabilizing selection

(C) Directional selection

(D) Disruptive selection

58. Total genes of a given population is

(A) gene frequency

(B) genotype

(C) gene family

(D) gene pool

59. 'Use and disuse' theory was proposed by

(A) Morgan

(B) Lamarck

(C) Darwin

(D) Weismann

60. Consider the following statements. The main drawbacks of the Darwinism were

i) The lack of any direct evidence of the effectiveness of natural selection in nature

ii) Considering evolution as individual phenomena not as population phenomena

iii) Ignorance of laws of inheritance

iv) Struggle for existence

Which of the following combinations is correct ?

(A) i, ii, iv

(B) i, iii, iv

(C) i, ii, iii

(D) ii, iii, iv

61. All of the following are believed to contribute to genomic diversity among various species, *except*

(A) gene duplication

(B) gene transcription

(C) lateral gene transfer

(D) chromosomal rearrangements

62. Choose the correct combination of molecular markers used in PCR based DNA amplification

(A) RFLP, AFLP and SSR

(B) AFLP, SSR and RAPD

(C) RFLP, RAPD and SSR

(D) RAPD, RFLP and SSR

63. Choose the correct sequence of events in a next generation sequencing based whole genome sequencing project

(A) DNA extraction → shearing → library preparation → sequencing → assembly → finishing → annotation → submission to Genbank

(B) DNA extraction → library preparation → sequencing → assembly → annotation → finishing → submission to Genbank

(C) DNA extraction → shearing → adapter ligation → library amplification → sequencing → assembly → finishing → annotation → submission to Genbank

(D) DNA extraction → adapter ligation → library amplification → shearing → sequencing → finishing → assembly → annotation → submission to Genbank

64. Which of the following forms of DNA travel faster when run together in an agarose gel electrophoresis ?

(A) Nicked supercoiled DNA

(B) Supercoiled DNA

(C) Linear DNA

(D) Plasmid DNA

65. After agarose gel electrophoresis RNA is detected by

(A) Horse radish peroxidase

(B) Glucose oxidase

(C) cDNA probes

(D) Spectro photometer

66. The scintillation counters detect radioactivity by

(A) Absorption of radiation

(B) Excitation of fluors

(C) Ionization of gas by radiation

(D) Molecular size

67. Which of the following organisms genome was chemically synthesized ?

(A) *Mycoplasma genitalium*

(B) *Saccharomycen cerevesae*

(C) *Rana pipeans*

(D) *Drosophila melanogaster*

68. The total protein coding sequence is the human genome is

(A) 15%

(B) 1.5%

(C) 0.15%

(D) 30%

69. Match the following :

List – I	**List – II**
i) Desert adaptation	1) Gibbon
ii) Fossorial adaptation	2) Naked mole rat
iii) Scansorial adaptation	3) Opossum
iv) Arboreal adaptation	4) Horned toad

Which of the following is right match ?

(A) i – 1, ii – 2, iii – 3, iv – 4

(B) i – 1, ii – 3, iii – 2, iv – 4

(C) i – 4, ii – 3, iii – 2, iv – 1

(D) i – 4, ii – 2, iii – 3, iv – 1

70. The co-factor involved in the conversion of succinic acid to fumaric acid is

(A) NAD^+

(B) FAD

(C) GTP

(D) NADP

71. The plants enduring salt stress tend to accumulates which of the following substance

(A) Alanine

(B) Proline

(C) Oxalic acid

(D) Salicylic acid

72. BioNET-International was initiated by

(A) CAB-International

(B) ICSU

(C) WWF

(D) UNEP

73. The most preferred organism for industrial production of Recombinant insulin is

(A) *Saccharomyces*

(B) *Lactobacillus*

(C) *Pichia*

(D) *Bacillus*

74. Antibodies obtained from hybridoma for one antigen are known as

(A) Polyclonal antibody

(B) Monoclonal antibody

(C) Multiclonal antibody

(D) Differential antibody

75. The scientist associated with work of genetically engineered bacteria for degradation by hydrocarbon is

(A) Joseph Lister

(B) Anand Chakraborthy

(C) H. G. Khoranna

(D) Inder Verma

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