

BIOLOGY

- A series of experiments were conducted by Frederick Griffith in 1928, on transforming principle with :
(A) *Streptococcus pneumoniae* (B) *Escherichia coli*
(C) *Bacillus thuringiensis* (D) *Salmonella typhimurium*
- The number of codons effective in coding twenty amino acids :
(A) 20 (B) 61 (C) 32 (D) 64
- Which aspect forms the basis of DNA finger-printing ?
(A) The amount of DNA found in samples of blood, saliva and skin.
(B) The ratio of purines and pyrimidines present in DNA.
(C) The Sequence of DNA present in the ridges and grooves of finger-prints.
(D) The Satellite DNA showing high degree of repetition in DNA segments.
- Identify the most infectious and fatal type of malarial parasite :
(A) *Plasmodium ovale* (B) *Plasmodium vivax*
(C) *Plasmodium malariae* (D) *Plasmodium falciparum*
- The type of antibodies produced during the allergic reaction
(A) Ig M (B) Ig A (C) Ig E (D) Ig G
- One of the side-effect of the use of anabolic steroids in females
(A) Masculinisation (B) Loss of memory (C) Hallucination (D) Cirrhosis of liver
- Which one of the following is a opiate narcotics ?
(A) LSD (B) Barbiturates (C) Morphine (D) Amphetamines
- The large holes in 'Swiss - Cheese' are made by a
(A) Fungus that releases a lot of gases during metabolic activities
(B) Machine
(C) Bacterium that produces methane gas
(D) Bacterium producing a large amount of CO₂
- Which vitamin is increased by 'LAB' in curd ?
(A) Vitamin E (B) Vitamin C (C) Vitamin B (D) Vitamin B₁₂
- Enzyme which is useful to remove the oily stains in laundry ?
(A) Lipase (B) Renin (C) Protease (D) Amylase
- DNA replicates semiconservatively was first shown in :
(A) Higher animals (B) *Escherichia coli* (C) Human cell (D) Plants



Space For Rough Work

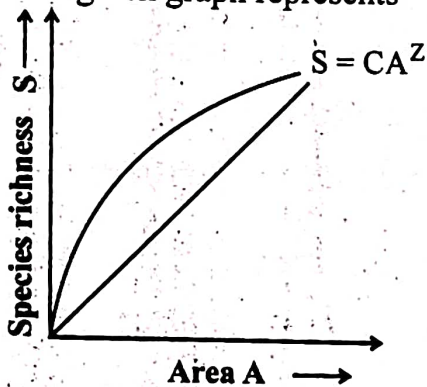
12. What does the sample of given base sequence represent ?
5' – GAATTC – 3'
3' – CTTAAG – 5'
- (A) Palindromic sequence
(B) Initiator codon at 5' end
(C) Deletion mutation
(D) Completion of replication
13. Gel electrophoresis is used for
(A) Cutting of DNA into fragments.
(B) Construction of recombinant DNA by joining with cloning vectors.
(C) Isolation of DNA molecule.
(D) Separation of DNA fragments according to their size.
14. An antibiotic resistance gene in a vector usually helps in the selection of
(A) Non-competent cells
(B) Competent cells
(C) Transformed cells
(D) Non-recombinant cells
15. Silencing of specific mRNA in RNAi is by
(A) dsDNA
(B) SSRNA
(C) dsRNA
(D) ssDNA
16. Cry-IAC effectively controls,
(A) Ring worm
(B) Cotton bollworms
(C) Corn borer
(D) Root nematode
17. ADA deficiency can be cured by
(A) Heart Transplantation
(B) Bone-marrow Transplantation
(C) Liver Transplantation
(D) Kidney Transplantation
18. Average natality rate in our village is 25, average mortality is 24, immigration 2 and emigration 3 and the net increase in population is :
(A) 27
(B) 0
(C) 5
(D) 10
19. The term “Molecular Scissors” refers to
(A) Taq polymerase
(B) Polymerase-I
(C) Polymerase-II
(D) Restriction enzyme

20. The animals which are active during day time :
(A) Cresporal (B) Diurnal (C) Auroral (D) Vesporal

21. Which of the following statement is incorrect related to biomes ?
(A) Low temperature and less rainfall is a characteristics of Tundra biomes.
(B) Variation in temperature and mean precipitation accounts for the major biomes.
(C) More rainfall and low temperature is the characteristics of deserts.
(D) High temperature and minimum rainfall help to form grasslands.

22. The amount of Photosynthetically active radiation captured by plants is
(A) 12 – 20 percent (B) 20 – 30 percent
(C) 2 – 10 percent (D) 60 – 70 percent

23. The given graph represents



(A) Species area relationship (B) Enzyme activity
(C) Growth of organisms (D) Population growth



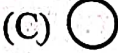

24. Cuscuta is an example of
(A) Predation (B) Broad Parasitism
(C) Endoparasitism (D) Ectoparasitism

25. Particulates of _____ size pose greatest risk to human health.
(A) Less than 7.5 micrometers in diameter
(B) Less than 2.5 micrometers in diameter
(C) Less than 4.5 micrometers in diameter
(D) Less than 3.5 micrometers in diameter

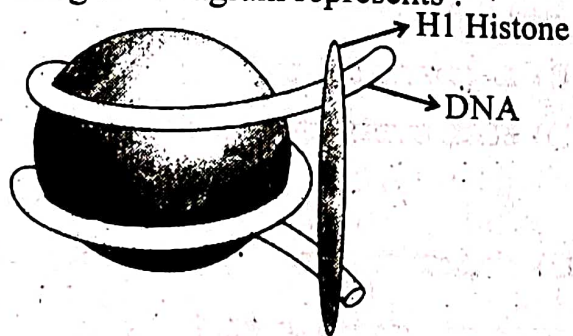
26. Maintenance of constant internal environment is called as
(A) Osmoregulation (B) Metastasis (C) Homeostasis (D) Thermoregulation

27. Bovine spongiform encephalopathy is caused by
(A) Fungi (B) Viroids (C) Prions (D) Virus
28. Phycoerythrin and Floridean starch is found in
(A) Red algae (B) Blue – green algae (C) Green algae (D) Brown algae
29. Different types of respiratory organs like gills, book gills, book lungs and trachea are present in
(A) Annelids (B) Sponges (C) Molluscs (D) Arthropods
30. Which of the following plant is used to extract Colchicine ?
(A) Tulip (B) Colchicum (C) Aloe (D) Asparagus
31. Rows of S-shaped setae in the body of earthworm are present in all the segments, except
(A) the first segment (B) the last segment
(C) the first and last segment (D) the first, last and clitellum
32. Cell theory was formulated by
(A) Schwann and Robert Brown (B) Schleiden and Schwann
(C) Robert Hook and Robert Brown (D) Schleiden and Robert Brown
33. The type of Polysaccharide present in a cotton fibre
(A) Glycogen (B) Starch (C) Insulin (D) Cellulose
34. Enzyme involved in crossing over
(A) Lygase (B) Recombinase (C) Polymerase (D) Endonuclease
35. Kranz anatomy can be seen in
(A) Maize (B) Tomato (C) Potato (D) Pea
36. Respiratory quotient of glucose is
(A) 1.0 (B) 0 (C) 0.7 (D) 0.9
37. A person suddenly starts coughing while swallowing food. This coughing would have been due to improper movement of
(A) Tongue (B) Epiglottis (C) Diaphragm (D) Neck
38. Binomial nomenclature is introduced by
(A) John Ray (B) Carolus Linnaeus
(C) Lamarck (D) Bentham and Hooker

39. Filtration of blood during urine formation takes place in
 (A) Glomerulus (B) DCT (C) PCT (D) Collecting duct
40. Corpus Callosum connects the
 (A) Spinal cord with the brain (B) Two lobes of cerebellum
 (C) Two cerebral hemispheres (D) Cerebrum and cerebellum
41. Menstrual cycle is exhibited by :
 (A) Tiger (B) Cow (C) Rat (D) Apes
42. An example of dioecious plant :
 (A) Papaya (B) Cucurbita (C) Coconut (D) Mango
43. Stalk of the Stamen is :
 (A) Peduncle (B) Filament (C) Pedicel (D) Petiole
44. The ovule of angiosperm is technically known as :
 (A) Megaspore (B) Megasporangium
 (C) Megasporophyll (D) Megaspore mother cell
45. Typical mature embryo sac of angiosperm is
 (A) 8 nucleated 1 celled structure (B) 8 nucleated 8 celled structure
 (C) 8 nucleated 7 celled structure (D) 7 nucleated 8 celled structure
46. One of the 2000 years old viable seed, discovered during the archeological excavation at King Herold's near dead sea.
 (A) Lupin (B) Sunflower
 (C) Phoenix dactylifera (D) Maize
47. The testis are situated outside the abdominal cavity in scrotum as it helps to
 (A) Regulates hormone secretion (B) Store sperm
 (C) Release sperm (D) Maintain the low temperature
48. Identify the odd one from the following :
 (A) Isthmus (B) Fimbriae (C) Labia minora (D) Infundibulum
49. In which month of gestation, the first movements of foetus and appearance of hair on its head is observed ?
 (A) 8th month (B) 1st month (C) 4th month (D) 5th month
50. The most abundant type of WBC cells
 (A) Monocytes (B) Basophils (C) Neutrophils (D) Eosinophils

51. Which of the following is correctly matched ?
 (A) Spores – Sponge (B) Conidia – Hydra
 (C) Gemmules – Amoeba (D) Bulbil – Agave
52. The technique advised by a doctor to overcome the problem of infertility :
 (A) RTI (B) MTP (C) ART (D) RCH
53. Amniocentesis is a process to :
 (A) Determine the sex of the foetus (B) Determine any disease of heart
 (C) Know about the disease of brain (D) To grow cell on culture medium
54. The first human like being is
 (A) Homo menthus (B) Homo erectus (C) Homo habilis (D) Homo sapiens
55. XO type of sex determination and XY type of sex determination are the examples of
 (A) Female Homogamety (B) Male Heterogamety
 (C) Female Heterogamety (D) Male Homogamety
56. Example for Non-Mendelian disorder :
 (A) Cystic fibrosis (B) Haemophilia (C) Down's syndrome (D) Thalassemia
57. Gynecomastia is a symptom of
 (A) Cri-du-chat syndrome (B) Down's syndrome
 (C) Kline Felter's syndrome (D) Turner's syndrome
58. The affected male in the pedigree chart is symbolized by :
 (A)  (B)  (C)  (D) 

59. The given diagram represents :



- (A) Mesosome (B) Chromosome (C) Ribosome (D) Nucleosome
60. Which of the following hormones is not secreted by human placenta ?
 (A) FSH (B) hCG (C) Relaxin (D) Progesterone