I. Chose the correct answer: 14x1=14

1. Which herbarium has more than 12,000 species?
   a) presidency college herbarium  
b) Herbarium of Royal Botanical gardens
   c) Ranipet herbarium  
d) Herbarium of Indian Botanical garden

2. The family included under the series unisexualae is
   a) Solanaceae  
b) Euphorbiaceae  
c) Malvaceae  
d) Musaceae

3. The number of fertile stamen in Ravenala is
   a) 6  
b) 5  
c) 4  
d) 3

4. Bundle cap consists of.............. cells.
   a) Parenchyma  
b) Collenchyma  
c) Sclerenchyma  
d) Chlorenchyma

5. The vascular bundle in the leaf is
   a) Collateral and open  
b) Collateral and closed  
c) Bicollateral and open  
d) Collateral and exarch

6. The 17th chromosome of man is...........
   a) acrocentric  
b) metacentric  
c) sub-metacentric  
d) acentric

7. The width of DNA is......
   a) 18Å  
b) 20Å  
c) 3.5Å  
d) 25Å

8. Each restriction enzyme leaves a DNA molecule at.........
   a) 5’ terminal end  
b) 3’ terminal end  
c) nucleotide sequence  
d) the ends of genes

9. In tomato ........ enzyme breaks down the cell constituents.
   a) polygalacturonase  
b) cellulose  
c) hemicellulose  
d) polymerase
10. The net gain during glycolysis is
   a) 2ATP, 2NADPH2  B) 2ATP, 2NADH2  c) 3ATP, 3NADPH2  D) 3ATP, 2NADH2

11. Photosynthetic pigments are present in
   a) Cristae   b) Cisternae   c) Thylakoid   d) Stroma

12. Which is a gaseous hormone?
   a) Auxin   b) Cytokin   c) Ethylene   d) Gibberellin

13. .......... is a nitrogen fixing bacteria used as biofertilizer.
   a) Azotobactor   b) Azospirillum   c) Rhizobium   d) Azolla

14. Which is the collateral host plant of pyricularia oryzae?
   a) Oryza sativa   b) Digitaria marginata   c) Arachis hypogea   d) Citrus plant

Section –B

II. Answer any seven questions 7x3=21

15. How is ICBN evolved?

16. What is areal psedostem?

17. What are surface fibre?

18. Explain starch sheath?

19. What is mutagenes?

20. Write any three biotechnology centres?

21. What is photolysis of water?

22. Write the Respiration in an exothermic reaction equation?

23. Write about the techniques of vernalizations?

24. What is biomedicines?

Section-C

III. Answer any four questions: Q.No:25 is compulsory 4x5=20

25. Some important National and International Herbaria with species?
26. Draw the label partsof a T.S. of dicot leaf?
27. Write short notes on inversion?
28. Write short account of the origin of tissue culture?
29. Describe the structure of Chloroplast?
30. Draw the overall representation of respiration?
31. Write the aims of plant breeding?

Section –D

IV. Answer any two questions: 2x10=20
32. Write the general characters of Solanaceae?
33. Write the anatomical difference between dicot stem and monocot stem?
34. What is the role of Bt toxin in crop protection against pest? Explain the action of biopesticide?
35. Write an essay on photorespiration or C2 cycle?

PART –II- BIO-ZOOLOGY

Section-A

I. Choose the correct answer: 16x1=16
1. Gross deficiency of .......vitamin affects nervous and cardiovascular system.
   a) E  b) B1   c) B2   d) B6
2. ........ has polymorphic nuclei.
   a) Neutrophil  b) Basophil  c)Monocyte  d) Lymphocyte
3. Melanin is produced from...... aminoacid.
   a) Leucin   b)prolin   c)Valin   d) tyrosine
4. The axons from the respiratory center lead to the diaphragm through...... nerves.
   a) vagus  b)somatic  c) phrenic  d) crucial
5. Who solidified the liquid culture media?
   a) Louis pasteur  b) Robert koch  c) Joseph Lister  d)Alexander Flemming
6. ..... enzyme is attached with the RNA of the HIV virus.
   a) Reverse transcriptase  b) transcriptase  c) Endonuclease  d) Exonuclease

7. The toxic substance produced by vibrio cholerae in the human intestine is
   a) haemozoin  b) arsenic  c) Exotoxin  d) Enterotoxin

8. Which is the largest lymphoid organ?
   a) Thymus  b) Liver  c) spleen  d) lymph node

9. The number of nucleotide present in plasmid is.......
   a) 100 to 200  b) 200 to 300  c) 300 to 400  d) 100 to 300

10. ....... is used in waste recycling to increase productivity.
    a) Proteomics  b) Bio-informatics  c) Genetic engineering  d) cloning

11. ........... is the actual production of offspring.
    a) Growth rate  b) Total fertility rate  c) Birth rate  d) Fertility

12. Which one of the following is a non-bio degradable waste?
    a) industrial waste  b) agricultural product  c) animal waste  d) waste from food processing

13. The milk of...... breed is rich in carotene content.
    a) Hallikar  b) Jersy  c) Ongole  d) Sindhi

14. Which fowl belongs to Spain?
    a) Leghorn  b) Oncone  c) Minarca  d) Sussex

15. An increased number of Erythrocytes indicates the possibility of.......
    a) polycythemia  b) anaemia  c) bacteria infection  d) leukemia

16. Temperature related changes in the body was noted by....... in white mice.
    a) Charles Darwin  b) MC Doughall  c) Pavlov  d) F.B.Summer
Section-B

II. Answer any eight questions: 8x3=24

17. Explain plasmaphoresis?
18. Write any three functions of skin?
19. What are achievements or contributions of Joseph Lister in Microbiology?
20. What is antigenic determinent?
21. What is anaphylaxis?
22. What is called palindrome sequence?
23. List out the symptoms of Huntington’s Chorea?
24. Explain the primary and secondary database?
25. Write any three organisation involved in biodiversity conservation?
26. What is incubation? Explain the types?
27. What are the parameter analysed in autoanalyser?
28. What is polysomics?

Section-C

III. Answer any three questions: Q.No:31 is compulsory. 3x5=15

29. What are the functional areas of cerebral cortex?
30. Explain the plasmodium and malaria?
31. Describe the structure and function of Thymus?
32. Explain ‘Glowing coal’ model and it uses?
33. Explain the three types of Natural selection?

Section-D

IV. Answer any two questions: 2x10=20

34. Explain the mechanism of urine mechanism?
35. Explain the following disorder connected with Nervous system. A) Stroke  b) Alzheimer’s disease.
36. Briefly explain the fresh water crisis?

37. Explain the poultery forming methods?

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