PRACTICE SET-5

1. Photophosphorylation was discovered by
a. Arnon D.I. **b.** Hill R.
c. Calvin M. **d.** Ruben and Kamen

2. First experiment related to the method of hydroponics were done by:
a. Knop **b.** Hill
c. Arnon **d.** Sachs

3. Indicate the completely **correct** statement about human races.
a. All human races can interbreed but most will produce infertile young ones
b. Different human races cannot interbreed
c. Some human races can interbreed
d. All human races can interbreed and produce fertile offspring

4. Correct sequence of stages in the evolution of the modern man, (*Homo sapiens*), is:
a. Neanderthal man, Australopithecus, Cro-Magnon man, Homo erectus, modern man
b. Australopithecus, Homo erectus, Neanderthal man, Cro-Magnon man, modern man
c. Homo erectus, Australopithecus, Neanderthal man, Cro-Magnon man, modern man
d. Australopithecus, Neanderthal man, Cro-Magnon man, Homo erectus, modern man

5. Viroids have:
a. Single stranded RNA not enclosed by protein coat
b. Single stranded DNA not enclosed by protein coat
c. Double stranded DNA enclosed by protein coat
d. Double stranded RNA enclosed by protein coat

6. Prions are pathogens that are thought to consist solely of:
a. RNA **b.** DNA
c. Proteins **d.** $\varnothing \times 174$

7. D.C. Gajdusek was awarded the Nobel Prize for discovery of prion-based diseases in:
a. 1976 **b.** 1979
c. 1980 **d.** 1995

8. Class Crustacea differs from Insecta in having:
a. Two pairs of antennae **b.** Joint feet
c. Chitinous **d.** None of these

9. Which insect is useful for humans?
a. Periplaneta **b.** Musca
c. Bombyx **d.** Mosquitoes

10. Milk spoilage is due to:
a. Aspergillus
b. Pseudomonas
c. Lactobacillus
d. Staphylococcus

11. Cyanobacteria, unlike other types of bacteria that photosynthesise:
a. Do not give off oxygen
b. Give off oxygen
c. Do not have chlorophyll
d. Do not have a cell-wall

12. Which of the following is not a characteristic of the eubacteria?
a. Prokaryotic
b. Have peptidoglycan cell wall
c. Have the same shape
d. Grow by binary fission

13. What is perisperm?
a. Remnent of nucellus **b.** Caruncle
c. Hilum **d.** Kernel

14. Scutellum is a:
a. Endosperm of gymnosperms
b. Shield-shaped cotyledon of monocots
c. Protective covering of radicle
d. Protective covering of plumule

15. Palisade tissue is present on both sides of leaf on:
a. Nerium **b.** Eucalyptus
c. Both **a.** and **b.** **d.** Wheat

16. Epistomatic leaf is of
a. Nelumbo nucifera
b. Nymphaea spp.
c. Victoria regia
d. All of the above

17. Teeth in frog are:
a. Thecodont **b.** Acrodont
c. Heterodont **d.** Pleurodont

18. Well-developed astragalus and calcaneum are found in:
a. Forelimb of frog
b. Forelimb of rabbit
c. Pectoral girdle
d. Hind limb of rabbit

19. Lower jaw of mammals is formed of:
a. Dentaries
b. Maxillae
c. Angulars
d. Mentomeckelians

20. Chromatin is composed of:
a. DNA and histones only
b. DNA and small amounts of RNA
c. DNA, small amount of RNA and histones
d. DNA, small amount of RNA, histones and non-histone proteins

21. Which cellular organelle of higher organisms contains circular DNA?
a. Chloroplast **b.** Peroxisome
c. Nucleus **d.** Ribosome

22. Crossing over occurs at
a. Two strand stage **b.** Four strand stage
c. Three strand stage **d.** One strand stage

23. PMC or MMC are the best thing to demonstrate
a. Chromosome elongation **b.** Chiasmata
c. Cell fusion **d.** Centrosomes

24. Chromosome number is halved in which stage of meiosis?
a. Metaphase I **b.** Anaphase I
c. Metaphase II **d.** Telophase I

25. The antibiotic that prevents entry of tRNA-amino acid complex into a site of ribosome is:
a. Puromycin **b.** Erythromycin
c. Rifamycin **d.** Actinomycin-D

26. The enzyme over ribosome is:
a. Adenylate cyclase **b.** Phosphodiesterase
c. Signalase **d.** Peptidyl transferase

27. Of all the environmental factors which is the most influential in determining the rate of transpiration?
a. Light
b. Water
c. Relative humidity of atmosphere
d. Temperature

28. Loss of liquid water by guttation occurs through
a. hydathodes **b.** stomata
c. cuticle **d.** bark

29. In the resting state of the neutral membrane, diffusion due to concentration gradient, if allowed, would drive
a. K^+ into the cell
b. K^+ and Na^+ out of the cell
c. Na^+ into the cell
d. Na^+ out of the cell

30. Fertility of the soil in rice fields can be improved by
a. Gypsum **b.** Sodium chloride
c. Blue-green algae **d.** Rhizobium

31. The smallest angiospermic/dicot parasite is:
a. Arceuthobium **b.** Wolffia
c. Cassytha **d.** Rafflesia

32. Which is the acceptor of CO_2 in Calvin cycle?
a. RuBP **b.** RuMP
c. PGA **d.** REP

33. In dark reaction of photosynthesis which is synthesised?
a. O_2 **b.** ATP
c. $NADPH_2$ **d.** PGA

34. The organism in which Krebs cycle does not occur in mitochondria is
a. Yeast **b.** E. coli
c. Ulothrix **d.** Mould

35. A characteristic feature of ripening of some fruits (like banana) is a sudden increase in respiration which is known as:
a. Climacteric **b.** Anthesis
c. Climatic **d.** Photorespiration

36. R.Q. is highest when respiratory substance is:
a. Fat **b.** Maleic acid
c. Glucose **d.** Protein

37. The coralloid roots are the characteristics of
a. Ferns **b.** Cycas
c. Angiosperms **d.** None of these

38. In which order of gymnosperms only fossils are present
a. Cycadofilicales **b.** Ginkgoales
c. Coniferales **d.** Gnetales

39. Agar agar is commercially obtained from
a. Red algae **b.** Green algae
c. Brown algae **d.** Blue-green algae

40. Simplest amino acid is:
a. Valine **b.** Glycine
c. Serine **d.** Leucine

41. Deficiency of protein causes
a. Kwashiorkor **b.** Anaemia
c. Pellagra **d.** Goiter

42. Blood group was discovered by
a. Mendel **b.** Francis Nelson
c. Landsteiner **d.** S. Miller

43. Rh factor may be responsible for:
a. Turner's syndrome
b. AIDS
c. Sickle cell anaemia
d. Erythroblastosis foetalis

44. Which chamber of a bird heart does oxygenated blood enter first?
a. Right atrium **b.** Right ventricle
c. Left ventricle **d.** Left atrium

45. Laboratory anticoagulant most commonly used is:
a. Sodium citrate **b.** Potassium oxalate
c. Sodium chloride **d.** Alum

46. RBC of humans live for about 100–120 days, after which they are broken down in the:
a. Liver **b.** Spleen and liver
c. Thymus **d.** Bone marrow

47. Which organ is also referred to as the blood bank?
a. Liver **b.** Spleen
c. Heart **d.** Muscles

48. The maximum amount of electrolytes and water (70–80%) from the glomerular filtrate is reabsorbed in which part of the nephron?
a. Distal convoluted tubule
b. Proximal convoluted tubule
c. Descending limb of loop of Henle
d. Ascending limb of loop of Henle

49. Which is **not** a part of nephron of a mammal?
a. Bowman's capsule
b. Proximal convoluted tubule
c. Distal convoluted tubule
d. Pelvis

50. The total number of muscles in the body of man is
a. 409 **b.** 439
c. 539 **d.** 639

Answers and Solutions

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2. **(d)** First experiment related to the method of hydroponics were done by Sachs.
3. **(d)** All human races can interbreed and produce fertile offspring.
4. **(b)** *Australopithecus, Homo erectus, Neanderthal man, Cro-Magnon man, Modern man*
5. **(a)** Single stranded RNA not enclosed by protein coat.
6. **(c)** Prions are pathogens that are thought to consist solely of proteins.
7. **(b)** 1979
8. **(a)** Class Crustacea differs from Insecta in having two pairs of antennae.
9. **(c)** Bombyx is useful for humans.
10. **(c)** *Lactobacillus* a rod-shaped bacterium which produces lactic acid from the fermentation of carbohydrates. A bacterium normally found in the mouth, intestinal tract, and vagina.
11. **(b)** Cyanobacteria, unlike other types of bacteria that photosynthesise give off oxygen.
12. **(a)** Prokaryotic
13. **(a)** Remnant of nucellus is perisperm.
14. **(c)** Protective covering of radicle.
15. **(c)** Both *Nerium* and *Eucalyptus.*
16. **(d)** *Nelumbo nucifera, Nymphaea sps* and *Victoria regia.*
17. **(b)** Acrodont are frog teeth.
18. **(d)** Well-developed astragalus and calcaneum are found in hind limb of rabbit.
19. **(a)** Lower jaw of mammals is formed of dentaries.
20. **(d)** NA, small amount of RNA, histones and non-histone proteins.
21. **(a)** Chloroplast: A double membrane-bound organelle found in plant cells that contains chlorophyll and is responsible for mediating photosynthesis.
22. **(b)** Four strand stage
23. **(b)** Chaismata a point of overlap of paired chromatids at which fusion and exchange of genetic material take place during prophase of meiosis.
24. **(b)** Anaphase I
25. **(a)** The antibiotic that prevents entry of tRNA-amino acid complex into a site of ribosome is puromycin.
26. **(d)** The enzyme over ribosome is peptidyl transferase.
27. **(c)** Relative humidity of atmosphere.
28. **(a)** Loss of liquid water by guttation occurs through hydathodes.
29. **(c)** In the resting state of the neutral membrane, diffusion due to concentration gradient, if allowed, would drive Na^+ into the cell.
30. **(c)** Blue-green algae
31. **(a)** *Arceuthobium* is the smallest angiospermic/dicot parasite.
32. **(a)** RuBP is the acceptor of CO_2 in Calvin cycle.
33. **(d)** PGA is synthesised in dark reaction of photosynthesis.
34. **(b)** *E. coli*
35. **(a)** A characteristic feature of ripening of some fruits (like banana) is a sudden increase in respiration which is known as climacteric.

36. **(b)** R.Q. is highest when respiratory substance is maleic acid.

37. **(b)** The coralloid roots are the characteristics of Cycas.

38. **(a)** Cycadoficales

39. **(a)** Red algae, A gelatinous material derived from algae, specifically used as a culture medium of bacteria and other cells for diagnostic or laboratory experiments purposes.

40. **(b)** Simplest amino acid is glycine.

41. **(a)** Deficiency of protein causes Kwashiorkor.

42. **(c)** Blood group was discovered by Landsteiner.

43. **(d)** Rh factor responsible for Erythroblastosis foetalis.

44. **(d)** Left atrium chamber of a bird heart does oxygenated blood enter first.

45. **(a)** Laboratory anticoagulant most commonly used is sodium citrate.

46. **(b)** Spleen and liver

47. **(b)** Spleen

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49. **(d)** Pelvis

50. **(d)** 639

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