

12. **Paralysis of hand and feet caused by chronic consumption of alcohol is**
- a) Delirium tremens
b) Korsakoff's syndrome
c) Buerger's disease
d) Amblyopia
13. **Recessive sex-linked disorders**
- a) Albinism
b) Huntington disease
c) Color blindness
d) Black urine disease
14. **Which of the following is observed in typhoid?**
- a) Tachycardia
b) Stokes-Adam syndrome
c) Relative bradycardia
d) Both 'a' and 'c'
15. **Antibodies that can be passed on by the mother to her baby**
- a) IgA
b) IgG
c) IgB
d) Both (a) and (b)
16. **Intravenous sedation is used to perform**
- a) Angiography
b) Endoscopy
c) ECG
d) Sonography
17. **Data can be extracted, inserted, updated or deleted from a database by using**
- a) ALU
b) Query language
c) Flat file database
d) CD-ROM
18. **One cycle of vermicomposting is completed within ___ days**
- a) 10
b) 45
c) 100
d) 120
19. **Which of these are stimulus for secretion of oxytocin?**
- a) Extension of uterine smooth muscles
b) Breast suckling of the baby
c) Sight of another pregnant lady
d) Both (A) and (B)
20. **NOT located in the pelvic cavity of adult females**
- a) Ovaries
b) Uterus
c) Urinary Bladder
d) None of the above

ANSWER KEYS AND EXPLANATIONS

1. **Assuming 99% efficiency of complete aerobic respiration, net gain of ATP would be approximately**

Ans: a) 95

This is a simple mathematical calculation. When efficiency is 40%, 38 ATP are produced. Thus when efficiency is 99%, i.e., approx 2.5 times of 40%, ATP produced will be $2.5 \times 38 = 95$ ATP.

2. **What is the normal blood pressure of man?**

Ans: d) Either of the above

All the values(a), (b), (c) mean the same. In (a), blood pressure has been expressed in terms of water column.

3. **Urea is present in all of the below except**

Ans: c) All somatic cells

Urea is absent from all somatic cells. It is present in the hepatocytes, kidney, blood plasma.

4. **To study evolutionary relationships between greatly diverse species, ____ is used**

Ans: c) Ribosomal-RNA

Plastids and plasmids are not useful as they may not be present in higher organisms. Ribosomal RNA is used to study evolutionary relationships between greatly diverse species as it has a greater tendency to be conserved, whereas mit. DNA which evolves comparatively faster is used to study relations between closely related organisms.

5. **Total no. of cranial nerves that carry sensory impulses are**

Ans: c) 7 pairs

Along with sensory type of nerves, mixed types of cranial nerves too carry sensory impulses. Thus, 3 pairs of sensory and 4 pairs of mixed(total 7 pairs) out of 12 total pairs carry sensory impulses.

6. **Cyanobacteria are isolated using**

Ans: d) Fogg's medium

Fogg's medium specifically allows only the cyanobacteria to grow, inhibits growth of other microbes.

7. **Ground water becomes 'hard' when the concentration of dissolved salts exceeds ____ gms/lit.**

Ans: b) 3.5

Hard water is unfit of human consumption due to excess of mineral content. It is not suitable for agriculture and also reduces the life of equipments such as turbines, heaters, etc.

8. **When a bunch of grapes completely covered by plastic bag are kept in a hypertonic sugar solution, the grapes will**

Ans: d) None of the above

The plastic bag that completely covers the grapes is impermeable to the sugar solution. Hence, there will be no exchange substances.

9. **Isotope used by Sir Melvin Calvin to trace the path of carbon in dark reactions**

Ans: c) C¹⁴

- C¹⁴ was used to trace the path of carbon by Sir Melvin Calvin.
- O¹⁸ was confirm that water was the source of O₂ evolved in photosynthesis by Ruben and Camen.
- N¹⁵ was used by Messelson and Stahl to demonstrate semiconservative replication of DNA.

10. **Wall layer of pollen grain that is continuous is called**

Ans: a) Intine

Intine is the thin, continuos, inner wall layer. Exine is the outer wall layer. It is relatively thick and is thinned out at germ pores. The exine is made up of sporopollenin that resists degradation.

Note 1: The intine and exine are collectively called as **sporoderm**.

Note 2: Exine is absent in plants such as **Vallisneria, Ceratophyllum, Zostera**.

11. **Cytokinins are known to**

Ans: d) Help in retention of chlorophyll

12. **Paralysis of hand and feet caused by chronic consumption of alcohol is**

Ans: b) Korsakoff's syndrome

1. Delirium tremens is withdrawal syndrome in alcholics
2. Korsakoff's syndrome occurs in chronic alcoholic in which paralysis of hand and feet develops. The person is confused.
3. Buerger's disease is a clotting disease affecting peripheral blood vessels(those of hand and feet) in smokers.
4. Amblyopia is bluered vision due to tobacco smoking.

13. **Recessive sex-linked disorders**

Ans: c) Color blindness

- Albinism, black urine disease(alkaptonuria), sickle cell anemia are autosomal recessive traits.
- Huntington's disease is a autosomal dominant trait.
- Color blindness, haemophilia, congenital night blindness sex linked recessive disorders.

14. **Which of the following is observed in typhoid?**

Ans: d) Both 'a' and 'c'

- Tachycardia(increased pulse rate) is observed in typhoid fever.
- Relative bradycardia means that when the patient is feverish, the patient's heart rate is less that that expected for the patient's body temperature. For eg: When the temperature is 104° F, the expected temperature is 130 beats/min. However, the heart rate is observed to be less than 130 beats/min.

15. **Antibodies that can be passed on by the mother to her baby**

Ans: d) Both (a) and (b)

- IgG is passed through placental circulation and breast milk.
- IgA is passed through breast milk.
- IgG is the only type of antibody that can pass accross the placenta.

16. **Intravenous sedation is used to perform**

Ans: a) Angiography

Local anaesthesia and intravenous sedation is used while performing coronary angiography because its causes intense pain and may be unbearable many times. Unfavourable events like increased blood pressure, etc. may also occur if sedation and anaesthesia is not used.

17. **Data can be extracted, inserted, updated or deleted from a database by using**

Ans: b) Query language

A query language is the communication interface with the database.

18. **One cycle of vermicomposting is completed within ____ days**

Ans: b) 45

One cycle of vermicomposting takes 45 days as compared to 120 days in traditional composting.

19. **Which of these are stimulus for secretion of oxytocin?**

Ans: d) Both (A) and (B)

20. **NOT located in the pelvic cavity of adult females**

Ans: d) None of the above

Prof. Rohan Shenoy's test-series