

Biology

1. "Complete competitors cannot coexist" is true
 1. character displacement
 - 2. competitive exclusion**
 3. primary succession
 4. secondary succession
2. Flowers emitting foul odour are pollinated by
 1. butterflies and beetles
 2. ants and beetles
 - 3. flies and beetles**
 4. butterflies and ants
3. Autosomal gene whose dominance is influenced by the sex of the bearer is called
 1. sex influenced gene
 2. sex limited gene
 - 3. sex linked gene**
 4. all
4. Three children in a family have blood types O, AB and B respectively. What are the genotypes of their parents?
 1. IAIA and IBi
 2. IBIB and IAIA
 3. IAIB and ii
 - 4. IAi and IBi**
5. In an aquatic ecosystem, the trophic level equivalent to cow in grassland is
 1. Phytoplankton
 - 2. zooplankton**
 3. crocodile
 4. benthos
6. Secretion of bile is prompted by
 - 1. cck**
 2. secretin
 3. insulin

4. gastrin

7. Blood pressure is defined as the pressure exerted by blood on
 1. veins
 - 2. arteries**
 3. capillaries
 4. heart

8. A very important factor in evolution of a new species
 1. extensive inbreeding
 2. extensive out breeding
 - 3. reproductive isolation**
 4. immigration

9. How many nucleotides are present in a segment of DNA molecule having 40 cytosine and 60 thymine bases?
 1. 100
 - 2. 200**
 3. 120
 4. 240

10. Female Mongolian syndromes are
 1. sterile
 2. fertile
 - 3. may be sterile or fertile**
 4. not known

11. Na⁺ and glucose absorption is
 - 1. active transport**
 2. passive transport
 3. no transport
 4. none

12. Statement A: Bryophytes show the formation of embryo
Statement B: The embryo develops into the gametophyte in bryophytes
 1. Both statements A and B are correct and B is the reason for A
 2. Both statements A and B are correct and B is not the reason for A
 3. Both statements A and B are wrong
 - 4. Statement A is correct and B is wrong**

13. Ethyl alcohol is commercially manufactured by using

1. bajra
2. grapes
3. maize
- 4. sugarcane**

14. Exponential growth is maximum in

- 1. tissue culture cells**
2. embryo
3. unicellular organisms
4. multicellular organisms

15. Phagocytes are special type of cells which engulf antigens. They belong to

1. lymphocytes and acidophils
2. basophils and acidophils
3. lymphocytes and basophils
- 4. monocytes and neutrophils**

16. Statement A: Deoxyribose sugar is a monosaccharide

Statement B: Glycogen is a heteroglycan

1. Both the statements are correct
- 2. Statement A is correct B is wrong**
3. Statement A is wrong and B is correct
4. Both the statements A and B are wrong

17. Why BGA are commonly found in paddy fields? Because both prefer

1. acidic soil
- 2. water logging**
3. nitrogen rich soil
4. humus rich soil

18. What was the most significant trend in the evolution of modern man from his ancestors?

1. Shortening of jaws
2. Binocular vision
- 3. Upright posture**
4. All the above

19. From the STDs mentioned below identify the one which does not specifically affect the sex organs

1. Syphilis
- 2. AIDS**
3. Gonorrhoea
4. Genital warts

20. During transcription, if the nucleotide sequence of the DNA strand that is being coded is ATACG then the nucleotide sequence in mRNA would be

1. TCTGG
- 2. UAUGC**
3. UATGC
4. TATGC

21. In an organism with 20-40, what will be the chromosome number if a nullisomy exists?

1. 20
- 2. 38**
3. 39
4. 19

22. Endothelium of the inner surface of blood vessels in vertebrates is formed of

- 1. simple squamous epithelium**
2. columnar epithelium
3. cuboidal epithelium
4. ciliated cells

23. Procambium forms

1. intercalary meristem
2. vascular tissues
- 3. vascular cambium**
4. cork cambium

24. When a fresh water protozoan is placed in marine water

1. the contractile vacuoles become bigger in size
2. the number of contractile vacuoles increase
- 3. the contractile vacuoles disappear**

4. the contractile vacuoles remain unchanged.

25. How many times a red blood corpuscle will have to pass through the heart in its journey from hepatic artery to the aorta?

1. **Two times**
2. Only once
3. Several times
4. Four times

26. Which is not a monocot?

1. **Rose**
2. Orchid
3. Palm
4. Banana

27. Storage leaves are found in

1. Trapa
2. **Allium**
3. Triticum
4. Ziziphus

28. Inflorescence, which is NOT racemose but resembles a single flower, is called

1. cymose
2. **cyathium**
3. corymb
4. capitulum

29. Molluscs are

1. annulated animals
2. metamerically segmented animals
3. **unsegmented animals**
4. having only head and trunk

30. Male mosquito does not carry malarial parasite because

1. it is too small to carry the malarial parasite
2. **it lacks the modified mouth parts**
3. it cannot digest malarial parasite
4. none of these

31. Given alongside is a diagram of C.S. of gynoecium at its basal region.

This gynoecium belongs to

1. *Hibiscus*
2. ***Catharanthus***
3. *Musa*
4. *Gossypium*

32. The athlete's foot disease in human is caused due to

1. bacteria
2. **fungi**
3. virus
4. none of these

33. Linnaean system of plant classification is based on

1. evolutionary trends
2. morphological and anatomical characters
3. **floral characters**
4. embryology

34. Big holes in Swiss cheese are made by a

1. fungus that releases a lot of gases during its metabolic activities
2. It is eaten by a mouse without your knowledge
3. bacterium that produces methane gas
4. **bacterium producing a large amount of CO_2**

35. Red algae differ from green algae and brown algae in having

1. **no flagellated stages in their life cycles**
2. no differentiated cells
3. no chlorophyll
4. leghemoglobin within their cells

36. Among the following, which is NOT a root vegetable?

1. Sweet potato
2. **Potato**
3. Turnip
4. Carrots

37. Potato and sweet potato

1. have edible parts which are homologous organs
2. **have edible parts which are analogous organs**

3. have been introduced in India from the same place
4. are two species of the same genus

38. In protoplast fusion the enzymes required are

- 1. cellulase, hemicellulase, pectinase**
2. pectinase
3. ligase, hemicellulase
4. hemicellulase

39. In the diagram of human respiratory organs given below certain parts are indicated by alphabets. Choose the answer in which these alphabets are correctly matched with the parts they indicate.

1. a-Larynx, b - Trachea, c - Right superior lobe, d - Left inferior lobe, e - Bronchial tree.
- 2. a - Trachea, b - Larynx, c - Left superior lobe, d- Left inferior lobe, e- Bronchial tree**
3. a - Bronchial tree, b - Larynx, c - Right superior lobe, d-Left inferior lobe, e - Trachea
4. a - Trachca, b - Bronchial tree, c - Left superior lobe, d - Left inferior lobe e- Larynx

40. Which is correct about earthworm?

- 1. It has brain but no head**
2. It secretes cocoon around unfertilized egg
3. It has no locomotory organs
4. It can crawl on smooth surface easily

41. Gene capable of moving from one chromosome to another is

1. cosmid
2. transposon
- 3. exonic gene**
4. mute gene

42. Restriction enzyme EcoRI cuts the DNA between bases G and A only when the sequence in DNA is

1. GATATC
- 2. GAATTC**
3. GATTCC
4. GAACIT

43. Which of the following is a symbiotic nitrogen fixer!

1. Azolla
2. Glomus
3. Azotobacter
- 4. Frankia**

44. Effect of pollution is first marked on

- 1. microorganisms**
2. green vegetation of an area
3. food crop
4. none of these

45. LSD is

1. Sedative
2. Tranquillizer
3. stimulant
- 4. hallucinogen**

46. Hormones of the pituitary gland are

- 1. all steroids**
2. all proteins
3. some steroids and some proteins
4. complex substances of proteins steroids and carbohydrates

47. July 11th is observed as

- 1. world population day**
2. no tobacco day
3. world environmental day So
4. world health day

48. Match the following.

A Auxin

B Cytokinin

C Gibberellin

D Ethylene

E Abscissic Acid

1. Herring sperm DNA bench

2. Inhibitor of growth

3. Apical dominance and internet

4. Epinasty

5. Induces amylase synthesis

1. A-3 B-1 C-5 D-4 E-5

2. A-4 B-5 C-1 D-3 E-2

3. A-2 B-1 C-5 D-3 E-4

4. A-3 B-1 C-5 D-2 E-4

49. Fossil of Cromagnon man was found in

1. Shivalik Hills
2. Neander Valley-Germany
3. Africa
- 4. France**

50. Cation that is excreted maximum in urine is

- 1. Na**
2. K
3. Ca
4. Mg

51. Assertion: Anaerobic respiration causes fatigue in Human

Reason: With rest the fatigue disappears

- 1. Both Assertion and Reason are true and R is the correct explanation**
2. Both Assertion and Reason are true but Reason is not explanation
3. Assertion is true but reason is false
4. Both are false

52. In transgenics, expression of transgene in target tissue is determined by

- 1. transgene**
2. promoter
3. reporter
4. enhancer

53. Silencing of a gene could be achieved by

1. a short interfering RNA
2. antisense RNA
- 3. by both**
4. none

54. The phase of cell cycle during which 'DNA polymerase' is functionally active

- 1. S**
2. G2
3. G1
4. M

55. Calvin cycle leads to reduction of

1. **CO₂**
2. O₂
3. RUBP
4. RUMP

56. The type of epithelium found in inner lining of PCT is

- a) Squamous epithelium
- b) Glandular epithelium**
- c) Cuboidal epithelium
- d) Ciliated epithelium

57. Small fish get struck near the bottom of a shark and derives its nutrition from it. This kind of association is called as

1. symbiosis
- 2. commensalism**
3. predation
4. parasitism

58. The organization which has published the "Red Data Book" is

1. Conservation on International trade in Endangered Species of Wild Fauna and Flora
2. National Wildlife Action Plan
3. National Environmental Engineering research Institute
- 4. International Union for Conservation of Nature and Natural Resources**

59. The main biofertilizers are

1. bacteria
2. cyanobacteria
3. Fungi
- 4. all**

60. Yeast and Pencillium are included in

1. Zygomycetes
2. Basidiomycetes
- 3. Ascomycetes**
4. Deuteromucetes