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Level - 1 : All Level-1 successful* participants will get certificate, aptitude report and online subscription, and school toppers will be eligible for school hero medals.

Level - 2 : School toppers* will be selected for level-2-National level - online computer based interactive test held at exam centres all over India. Besides selection for level-3, winner will get merit certificate, medals, educational CDs, laptop, scholarship and other prizes. There is no level 2 in Art, Cricket, Cyber, NIPO and Biotech.

Level - 3 : Toppers will qualify# for level 3-International level-where you will compete with students globally. Get selected for EHF's International Olympiad training camp. Only Indian organization giving students exposure to global competitions. Represent India & win laurels. Guidance by top scientists. Prizes ranges from cash (millions of \$), gadgets, foreign trips, publicity, fame, scholarships, Internships, conference participation and more.

* # See prospectus/website for details

1. You are allowed additional 10 minutes to fill the required details in the **RESPONSE SHEET (OMR)**.
2. The question paper is made as per syllabus guidelines & pattern given in the information Booklet. The Question Paper for Classes 1 to 6 contains 25 Questions each to be answered in 40 minutes. The Question paper for classes 7 to 12 contains 50 Questions each to be answered in 60 minutes. All questions are compulsory. Further instructions are given in the instruction letter to the teacher.
3. Use the response sheet to mark your responses by darkening the required circle. The response sheet has to be returned to the foundation, duly filled in. **THE STUDENT CAN RETAIN THE QUESTION PAPER.**

**NATIONAL
BIOTECHNOLOGY
OLYMPIAD**

N B T O

7
Class

A1
Paper
Code

L E V E L - 1

GENERAL KNOWLEDGE

1. Exposure to sunlight helps a person improve his health because

- (1) the infrared light kills bacteria in the body.
- (2) resistance power increases.
- (3) the ultraviolet rays convert skin oil into vitamin D.
- (4) none of these

2. Anaerobic respiration induced by micro-organisms. Name the process.

- (1) Respiration
- (2) Combustion
- (3) Fermentation
- (4) None of these

3. During photosynthesis gases are exchanged through pores called

- (1) leavepores
- (2) plantpores
- (3) stomata
- (4) none of these

4. The thinnest layer of the earth is

- (1) Crust
- (2) Landmass
- (3) Core
- (4) None of these

5. A natural phenomenon that becomes harmful due to pollution is

- (1) global warming
- (2) ecological balance
- (3) greenhouse effect
- (4) none of these

6. Animal dung is _____ waste.
- (1) biodegradable
 - (2) non-biodegradable
 - (3) hazardous
 - (4) none of these
7. The tail of a comet always points towards the Sun?
- (1) True
 - (2) False
 - (3) Can't say
 - (4) None of these
8. The Earth is surrounded by an insulating blanket of gases which protects it from the light and heat of the Sun. This insulating layer is called the
- (1) Hydrosphere
 - (2) Atmosphere
 - (3) Lithosphere
 - (4) None of these
9. Which gas in the atmosphere protects us from harmful ultraviolet radiations?
- (1) Carbon Dioxide
 - (2) Ozone
 - (3) Oxygen
 - (4) None of these
10. What is the name given to molten rocks erupted by a volcano?
- (1) Andestine
 - (2) Crater
 - (3) Lava
 - (4) None of these

LIFE SCIENCE

11. Micro-organisms act upon the dead plants to produce
- (1) sand
 - (2) mushrooms
 - (3) humus
 - (4) none of these
12. This system helps in the transportation inside the body-
- (1) Nervous system
 - (2) Circulatory system

- (3) Respiratory system
- (4) None of these

13. Wood is the main raw material for the manufacture of-

- (1) paint
- (2) paper
- (3) ink
- (4) none of these

14. What is condensation?

- (1) Change of gas into solid
- (2) Change of solid into liquid
- (3) Change of vapour into liquid
- (4) None of these

15. In which of the following processes light energy is converted into chemical energy?

- (1) Respiration
- (2) Fermentation
- (3) Photosynthesis
- (4) None of these

16. Which of the following sets of substances contain acids?

- (1) Grapes, lime water
- (2) Vinegar, soap
- (3) Curd, vinegar
- (4) None of these

17. Citrus juices taste sour because it contains

- (1) Citric acid
- (2) Vitamin C
- (3) Both (1) and (2)
- (4) None of these

18. Pitcher is an example of

- (1) Insectivorous plant
- (2) Leguminous plant
- (3) Algae
- (4) None of these



19. This is-

- (1) An Autotroph
- (2) Heterotroph
- (3) Saprotrophic
- (4) None of these



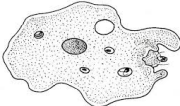
20. The function of the digestive juices present in the stomach is to breakdown

- (1) the proteins into simpler substances
- (2) starch into sugars
- (3) fats into juices
- (4) none of these

21. Plenty of boiled water mixed with a pinch of salt and sugar dissolved in it is called

- (1) An acid
- (2) A base
- (3) Oral rehydration solution
- (4) None of these

22. Single celled organism among the following is

- (1) 
- (2) 
- (3) 
- (4) None of these

23. The bacterium by which the people working in wool industry get infected is-

- (1) Rhizobium
- (2) Anthrax
- (3) Streptococcus
- (4) None of these

24. Red pigment in Red Blood cells is-

- (1) Haemoglobin
- (2) Plasma
- (3) Arteries
- (4) None of these

25. The heart is located in the

- (1) Chest cavity
- (2) Kidney cavity
- (3) Brain cavity
- (4) None of these

26. The effect of sweat on the human body is

- (1) it causes cooling
- (2) it causes heating
- (3) it causes freezing
- (4) none of these

27. Male reproductive part of a plant is

- (1) Pores
- (2) Pistil
- (3) Stamen
- (4) None of these

28. Bryophyllum can reproduce by its

- (1) Stem
- (2) Leaves
- (3) Roots
- (4) None of these

29. The process of ground water getting stored between the layers of hard rock below the water table is known as-

- (1) Aquifer
- (2) Infiltration
- (3) Water table
- (4) None of these

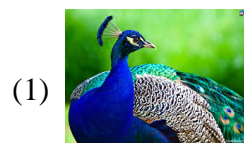
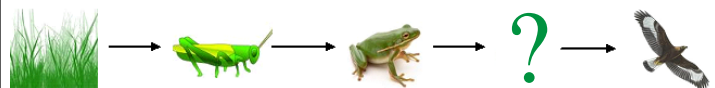
30. Activities which involve wastage of water are

- (1) Washing
- (2) Using the taps which are leaking
- (3) Both (1) and (2)
- (4) None of these

31. The branchy part of a tree above the stem is known as

- (1) Canopy
- (2) Crown
- (3) Herb
- (4) None of these

32. Find the missing link



- (4) None of these

33. Forests are called

- (1) Green lungs
- (2) Black skin
- (3) Red kidney
- (4) None of these

34. Breathing is a process that

- (1) provides O_2 to the body.
- (2) breaks down food to release energy.
- (3) helps the body to get rid of CO_2 .
- (4) produces water in the cells.

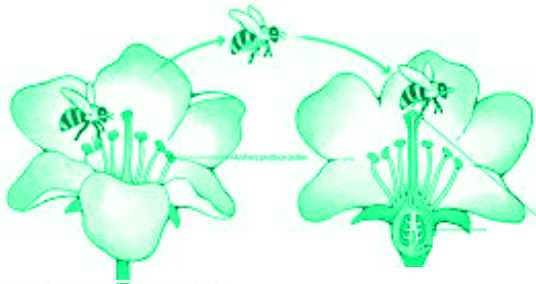
Which of the following gives the correct combination of functions of breathing?

- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (i) and (iii)
- (d) None of these

35. Earthworms and frogs breathe through their skin because of which the skin of both the organisms is



- (1) moist and rough
- (2) dry and rough
- (3) moist and slimy
- (4) none of these


36. This picture is showing.



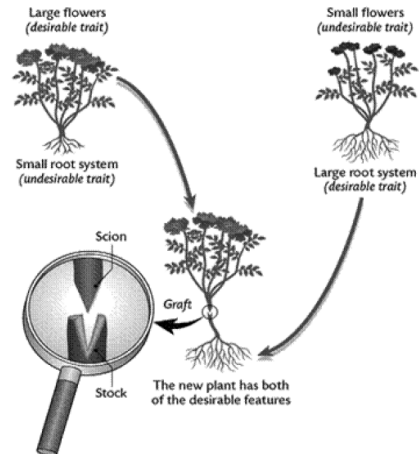
- (1) Budding
- (2) Spore formation
- (3) Pollination
- (4) None of these

37. Which one is the reproductive part of a plant?

- (1)  leaf
- (2)  Stem

- (3)  Flower
- (4) none of these

38. Identify the diagram.



- (1) Layering
- (2) Approach grafting
- (3) Wedge grafting
- (4) None of these

39. Which of the following statement is true regarding vegetative propagation?

- (1) Vegetative propagation occurs naturally and artificially producing genetically identical plants.
- (2) Vegetative propagation occurs naturally and artificially producing genetically different plants.
- (3) Vegetative propagation occurs artificially producing genetically similar plants.
- (4) None of these

40. Which of the following was the first cloned animal?

- (1) Dolly sheep
- (2) Dog
- (3) Mule
- (4) None of these

INTERACTIVE SECTION

41. The first drug produced using recombinant DNA technology was

- (1) streptokinase
- (2) TPA

- (3) insulin
- (4) none of these

42. A battery is a group of

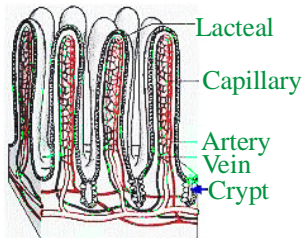
- (1) Two or more cells
- (2) Only single cell
- (3) Only two cells
- (4) None of these

43. Name the flower.



- (1) Balloon flower
- (2) Bamboo orchid
- (3) Daisy
- (4) None of these

44. These finger - like projections are present in the



- (1) Small intestine
- (2) Large intestine
- (3) Stomach
- (4) None of these

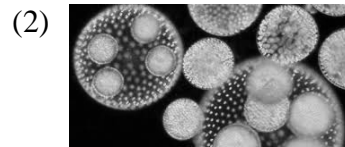
45. Rani and Rama were given one mirror each by their teacher. Rani found her image to be erect and of the same size whereas Rama found her image erect and smaller in size. This means that the mirrors of Rani and Rama are, respectively

- (1) Plane mirror and concave mirror
- (2) Concave mirror and convex mirror
- (3) Plane mirror and convex mirror
- (4) None of these

46. On a very hot day, a girl has two choices for her dress, one lemon colour dress and another dark brown colour dress. She must wear lemon colour dress to prevent _____ of heat.

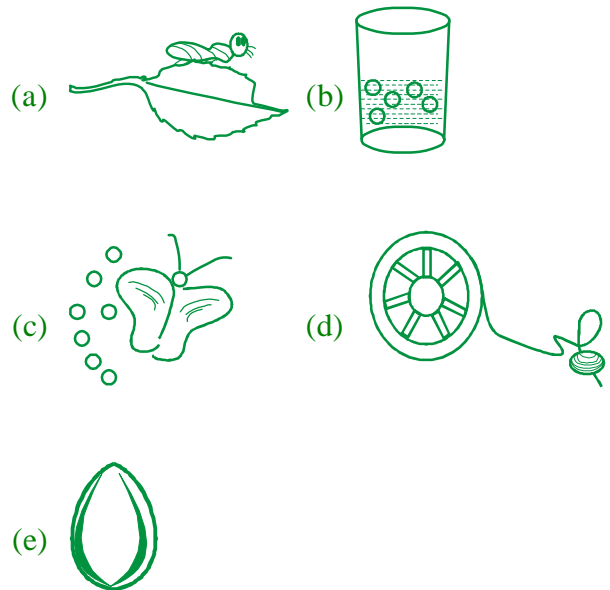
- (1) radiation
- (2) absorption
- (3) reflection
- (4) none of these

47. Sucking roots called haustoria are seen in



- (4) None of these

48. Given figures (a,b,c,d and e) represent different processes involved in silk production.



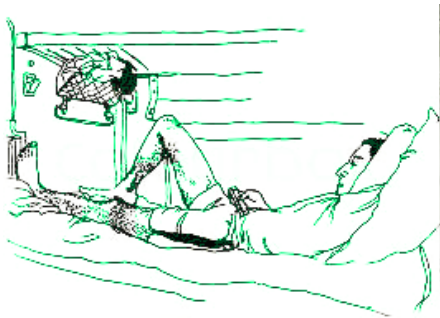
Arrange them in the correct sequence and select the correct option.

- (1) (c) → (e) → (a) → (b) → (d)
- (2) (a) → (e) → (c) → (d) → (b)
- (3) (c) → (a) → (e) → (b) → (d)
- (4) none of these

49. Given picture (1-6) show the various activities carried out by people. Arrange these activities in the order of increasing rate of breathing.



(1)



(2)



(3)



(4)



(5)



(6)

- (1) 2 → 6 → 3 → 1 → 5 → 4
- (2) 6 → 2 → 3 → 1 → 4 → 5
- (3) 2 → 6 → 1 → 5 → 4 → 3
- (4) None of these

50. The instrument shown in the given figure is used to measure



- (1) blood pressure
- (2) breathing rate
- (3) heart beat
- (4) none of these



END OF THE EXAM