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<b>ICO</b> INTERNATIONAL CYBER OLYMPIAD	<b>NISO</b> NATIONAL INTERACTIVE SCIENCE OLYMPIAD	<b>NIMO</b> NATIONAL INTERACTIVE MATHS OLYMPIAD	<b>NBTO</b> NATIONAL BIOTECHNOLOGY OLYMPIAD	<b>IEO</b> INTERNATIONAL ENGLISH OLYMPIAD	<b>IGO</b> INTERNATIONAL G.K. OLYMPIAD	<b>BIFO</b> BSE INTERNATIONAL FINANCE OLYMPIAD
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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 G.K. 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. Level 3 is in Maths, Science & Cyber only.

\*# See prospectus/website for details.

- You are allowed additional 10 minutes to fill the required details in the **RESPONSE SHEET (OMR)**. **STUDENTS OF CLASS 1 & 2 HAVE TO UNDERLINE** THE CORRECT ANSWER IN THE QUESTION PAPER ITSELF. THEY ARE NOT REQUIRED TO USE THE RESPONSE SHEET (OMR). THEY HAVE TO FILL THEIR NAME, ROLL NUMBER, CLASS, SCHOOL NAME IN THE SPACE PROVIDED IN THE QUESTION PAPER.
- 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.
- 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 except for classes 1 and 2.

## NATIONAL BIOTECHNOLOGY OLYMPIAD

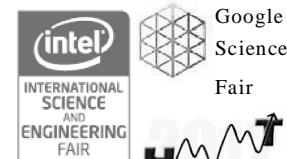
### N B T O

**8**  
Class

**A1**  
Paper  
Code

### LEVEL - 1

Academic Partner — [WWW.EDUSYS.IN](http://WWW.EDUSYS.IN)



## GENERAL KNOWLEDGE

- The procedure of making used or unwanted products into new remanufactured products is called
  - Tinning
  - Recycling
  - Manufacturing
  - None of these
- Which fish is disappearing fast across the US as a consequence of global warming?
  - Salmon
  - Catfish
  - Rohu
  - None of these
- The Indian state where 'Joint Forest Management' first originated was
  - Andhra Pradesh
  - Kerala
  - West Bengal
  - None of these
- Which bacteria can enhance the production of biogas from anaerobically digested sewage sludge?
  - Aerobic thermophilic bacteria
  - Obligate aerobic bacteria
  - Facultative anaerobic bacteria
  - None of these
- Which of the following is a non-renewable resource?
  - Biomass
  - Natural gas
  - Tides
  - None of these
- Which of the following can be used as a substitute for non-renewable diesel?
  - Alcohol from sugarcane
  - Oils from plants and seeds
  - Methane gas
  - None of these

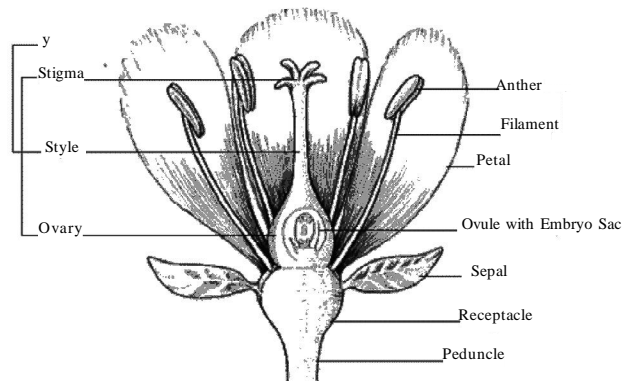
7. In which year was the Forest Conservation Act enacted to conserve forests?  
 (1) 1980 (2) 1927  
 (3) 1945 (4) None of these.
8. Which of the following is celebrated on 5th June to raise global awareness of the need to take positive environmental actions?  
 (1) Environmental Awareness  
 (2) Forest Conservation Day  
 (3) World Environment Day  
 (4) None of these
9. Carbon monoxide is a major contributor to air pollutant. Which of the following is the biggest source of carbon monoxide?  
 (1) Factories (2) Motor vehicles  
 (3) Forest fire (4) None of these.
10. Which Indian city has the highest level of air pollution called particulate matter less than 10 microns?  
 (1) Delhi (2) Mumbai  
 (3) Kolkata (4) None of these
14. Which of the following fibres burn with a yellow flame?  
 (1) Rayon (2) Silk  
 (3) Cotton (4) All of these
15. The process of inhalation and exhalation is known as  
 (1) Respiration (2) Diffusion  
 (3) Breathing (4) None of these
16. Which of the following produce unisexual flowers?  
 (1) Fir (2) Mustard  
 (3) Tulip (4) None of these
17. Which organism reproduce by the process of fragmentation?  
 (1) Lichens (2) Spirogyra  
 (3) Yeast (4) All of these
18. A place where ground water is stored between hard rocks below the water table  
 (1) Iceberg (2) Landfills  
 (3) Aquifer (4) None of these

## LIFE SCIENCE

11. How many chromosome does human have?  
 (1) 23 Chromosome (2) 46 Chromosome  
 (3) 30 Chromosome (4) None of these
12. The ratio of the number of hydrogen atoms to those of oxygen atoms in water is  
 (1) 2:1 (2) 1:2  
 (3) 2:3 (4) None of these
13. Which is the correct order of human nutrition?  
 (1) Ingestion, Assimilation, Digestion, Absorption & Egestion  
 (2) Ingestion, Digestion, Assimilation, Absorption & Egestion  
 (3) Ingestion, Digestion, Absorption, Assimilation & Egestion  
 (4) None of these

19. We can find variations in the type of plants and trees in every forest due to  
 (1) Different climatic condition  
 (2) Difference in rainfall  
 (3) Difference in soil  
 (4) None of these

20.



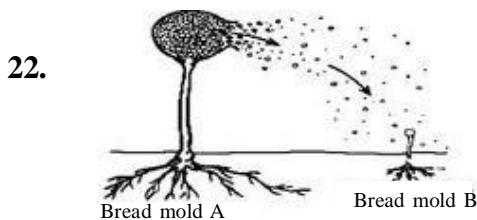
In the above diagram, stigma, style and ovary comes under y. Here 'y' refers to

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



Because of this animals adaptation, it would be most successful at

- (1) Making its own food  
 (2) Competing with birds  
 (3) Hiding from predators  
 (4) None of these

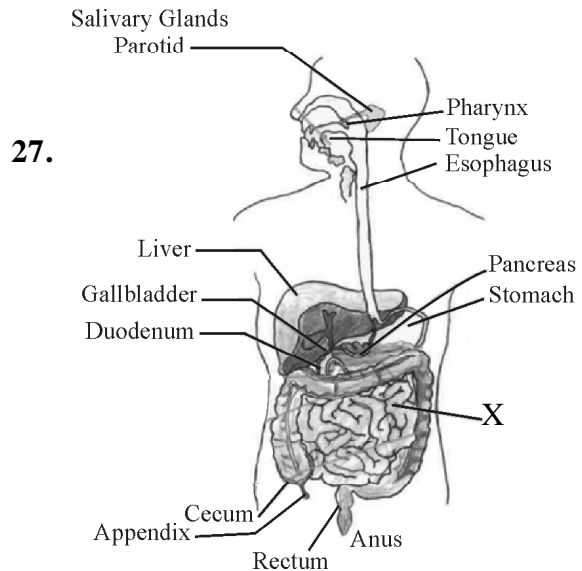
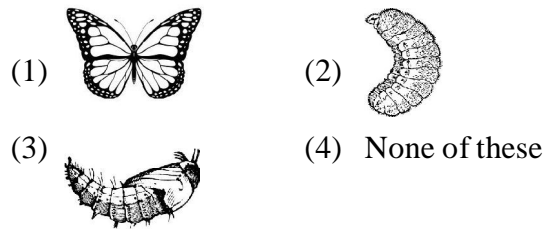


The figure

represents, which mode of reproduction

- (1) Sexual reproduction  
 (2) Asexual reproduction  
 (3) Vegetative propagation  
 (4) None of these
23. Fertilizer use and crop rotation with legumes increases the availability of which of the following nutrients in the soil?  
 (1) Oxygen                      (2) Nitrogen  
 (3) Calcium                      (4) None of these
24. A plant which gets food from the dead or decaying organic matter  
 (1) Agaricus                      (2) Fern  
 (3) Cuscuta                      (4) None of these
25. Which part of the plant gets carbon-dioxide from the air for photosynthesis?  
 (1) Root hair                      (2) Leaf veins  
 (3) Stomata                      (4) None of these

26. Egg → ? → pupa → Butterfly  
 Which picture shows the stage that is missing above



The principal function of structure X is to

- (1) Digest fat  
 (2) Produce salivary enzymes  
 (3) Absorb water  
 (4) None of these
28. Which of the following grows into a new plant with a bud?  
 (1) Potato                      (2) Carrot  
 (3) Brinjal                      (4) None of these
29. Human heart has how many chambers?  
 (1) Two                      (2) Three  
 (3) Four                      (4) None of these
30. Cotton is a  
 (1) Cellulose fibre                      (2) Protein fibre  
 (3) Mineral fibre                      (4) None of these

31. Pollen is produced by which part of the flowering plant?  
 (1) Ovary (2) Stamen  
 (3) Anther (4) None of these
32. Quinine is obtained from the bark of which tree?  
 (1) Red Wool (2) Cinchona  
 (3) Eucalyptus (4) None of these
33. Which of the following is a fat soluble vitamin?  
 (1) Vitamin A (2) Vitamin C  
 (3) Vitamin B (4) None of these
34. The presence of blood in the urine of a man is the indication of damaged  
 (1) Heart (2) Liver  
 (3) Kidneys (4) None of these
35. When new plants develop from parts other than the reproductive organs, it is called  
 (1) Vegetative propagation  
 (2) Binary fission  
 (3) Regeneration  
 (4) None of these
36. The relationship between Sea Anemones sitting on the back of Hermit Crabs is an example of  
 (1) Symbiotism  
 (2) Parasitism  
 (3) Saprophyism  
 (4) None of these
37. Which is the largest insectivorous plant?  
 (1) Pitcher plant (2) Drosera  
 (3) Rafflesia (4) None of these
38. Many vaccinations stimulate the immune system by exposing it to  
 (1) Weakened microbes  
 (2) Antibodies  
 (3) Enzymes  
 (4) None of these

39. Transport of materials by cell diffusion takes place in  
 (1) Yeast (2) Amoeba  
 (3) Tadpole (4) None of these
40. The walls of the stomach secrete an enzyme called  
 (1) Insulin (2) Trypsinogen  
 (3) Pepsinogen (4) None of these

### ETG INTERACTIVE SECTION

41. Three organisms possess some of the characteristics shown in the chart below. 'X' indicates the type of characteristics present. Which statement best describes these organisms?

Organism	Consumer	Structures for locomotion		
		Cilia	Flagella	Pseudopods
A			X	
B	X			X
C	X	X		

- (1) A could be an Algae, B could be Amoeba and C could Paramecium  
 (2) A could be a Plant, B and C could be Coelenterata  
 (3) A could be a Moss, B could be a Hydra and C could be an Earthworm  
 (4) None of these
42. If the ribosomes of a cell are destroyed then  
 (1) Respiration will not take place  
 (2) Fats will not be stored  
 (3) Proteins will not be synthesized  
 (4) None of these
43. Photochemical smog affects the plants growth because  
 (1) It forms a layer on leaves, affecting stomata  
 (2) It reduces the level of Chlorophyll  
 (3) Both (1) and (2)  
 (4) None of these

44. Which of the following combines both agriculture and foresting technologies to create profitable land use system?  
(1) Silviculture           (2) Agroforestry  
(3) Permaforestry       (4) None of these
45. Garden chairs made of plastic strips and plastic articles get faded, worn out and cracked in sunlight, mainly because of  
(1) Low melting point of plastic  
(2) Ultraviolet rays  
(3) Heat  
(4) None of these
46. It is possible to produce seedless tomato fruits by  
(1) Spraying hormones on flowers  
(2) Spraying mineral solution on plants  
(3) Applying trace elements in tomato fields  
(4) None of these
47. The final and most energy productive steps of metabolism for the generation of ATP takes place in  
(1) Endoplasmic Reticulum  
(2) Mitochondria  
(3) Ribosome  
(4) None of these
48. The tiny cellular structures involved in making proteins under the instruction of DNA are  
(1) Ribosomes           (2) Golgi apparatus  
(3) Centriole           (4) None of these
49. It is a mixture of organic and inorganic materials, the fluid portion is called cytosol.  
(1) Vacuole           (2) Cytoplasm  
(3) Centriole           (4) None of these.
50. The most noticeable feature that differentiates eukaryotes from prokaryotes is the presence of a  
(1) Nucleus           (2) Vacuole  
(3) Cytoplasm           (4) None of these



**END OF THE EXAM**