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| ICO INTERNATIONAL CYBER OLYMPIAD | NISO NATIONAL INTERACTIVE SCIENCE OLYMPIAD | NIMO NATIONAL INTERACTIVE MATH OLYMPIAD | NBTO NATIONAL BIOTECHNOLOGY OLYMPIAD | IEO INTERNATIONAL ENGLISH OLYMPIAD | IGO INTERNATIONAL G.K. OLYMPIAD | BIFO BSE INTERNATIONAL FINANCE OLYMPIAD | NIPO NATIONAL IIT-PMT 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 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.**

EHF
NATIONAL INTERACTIVE SCIENCE OLYMPIAD

N I S O

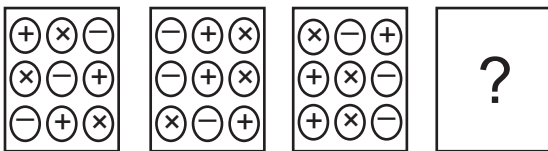

7
 Class

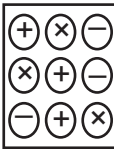
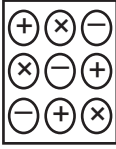
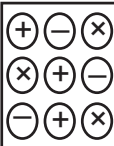

B1
 Paper Code

L E V E L - 1

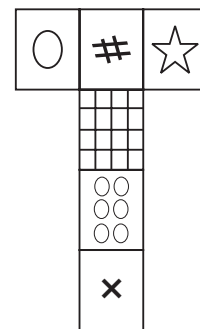
GENERAL IQ

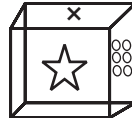
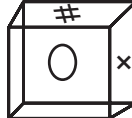
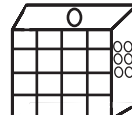
1. In the following problem a set of alternative figures have been given. Out of these choose the one which will come next in the given series?



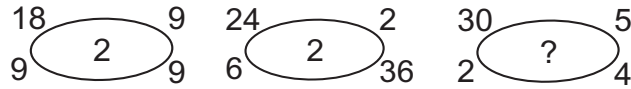
- (1) 
- (2) 
- (3) 
- (4) None of these

2. A cubical block with designs in the faces has been given unfolded. Which of the given options correctly represent the cube?



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

3. Which number should appear in the middle of the last ellipse?



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

4. Which of the numbers will come next in the given series?

4, 5, 7, 11, 19,

- (1) 27 (2) 33
(3) 35 (4) None of these

5. Unscramble the letters for each word and name a body part. Use the highlighted letters from each word to solve the answer.

Parts of the Body

A D E H

R A M

S E T O

T H E C S

ANSWER

- (1) STOMACH (2) MUSTACH
(3) PANCREAS (4) None of these

6. Fill in the blanks in the following sequence Day, _____, Month, Year

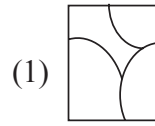
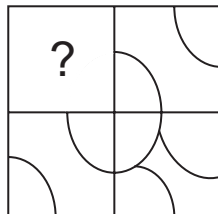
- (1) Decade (2) Fortnight
(3) Century (4) None of these

7. Which number completes the following series.

SCOTLAND 27186453, LOTS 7293, LOAN 8367, AND _____

- (1) 271 (2) 786
(3) 453 (4) None of these

8. In the following question, complete the missing portion of the given pattern by selecting from the given alternatives.



(1)



(2)



(3)

(4) None of these

9. Which is greater $\frac{1}{2}$ of $\frac{1}{4}$ or $\frac{1}{4}$ of $\frac{1}{2}$?

- (1) $\frac{1}{2}$ of $\frac{1}{4}$ (2) $\frac{1}{4}$ of $\frac{1}{2}$
(3) Both are same (4) None of these

10. A tourist bus takes 4 hours to cover a distance of 180 km. The distance it covered in 3 hours is

- (1) 130 km (2) 120 km
(3) 135 km (4) None of these

GENERAL SCIENCE

11. In rose plant, vegetative propagation is effected with the help of

- (1) Seeds (2) Stem
(3) Flowers (4) None of these

12. During photosynthesis, carbon dioxide and water are used by given plants to prepare food. What type of change takes place during this process?

- (1) Physical change (2) Chemical change
(3) Both 1 and 2 (4) None of these

13. Mohan decided to grow cotton and sugarcane. Which type of soil is the most suitable for these crops?

- (1) Black soil (2) Loamy Soil
(3) Sandy soil (4) None of these

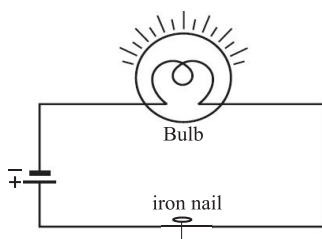
14. Hang a ball from a thread and give the ball a stronger push. The distance by which the ball moves away from its central position is called

- (1) Frequency (2) Time period
(3) Amplitude (4) None of these

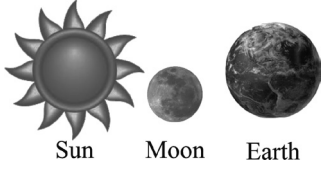
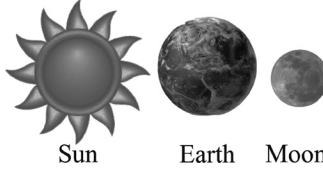
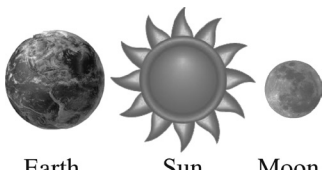
15. Shruti was using vinegar for cooking. Vinegar is actually dilute

- (1) Sulphuric acid (2) Acetic acid
(3) Lactic acid (4) None of these

16. Which of the following act as emulsifiers in the digestion of fat in the small intestine?
- (1) Bile acids and bile salts
 - (2) Proteases
 - (3) Amylase
 - (4) None of these
17. Heating a kettle of water is a good example of the transfer of heat by
- (1) Convection and radiation
 - (2) Conduction and radiation
 - (3) Convection and conduction
 - (4) None of these
18. When we rub our palms vigorously for a few minutes, heat is produced. This heat is produced by
- (1) Gravity
 - (2) Friction
 - (3) Electromagnetism
 - (4) None of these
19. A group of billions of stars make up a
- (1) Galaxy
 - (2) Constellation
 - (3) Comets
 - (4) None of these
20. Light does not bend
- (1) If it passes from an optically rarer to an optically denser medium at the point of incidence.
 - (2) If it passes from an optically denser to an optically rarer medium at the point of incidence
 - (3) If it is incident along the normal.
 - (4) None of these
21. What are the characteristics of an image formed with a plane mirror?
- (1) Image formed is erect
 - (2) Image is as far behind the mirror as the object is in front of it.
 - (3) Both 1 and 2
 - (4) None of these
22. Connect an iron nail to the broken ends of a wire as shown below



If the bulb glows, iron nail is

- (1) an insulator
 - (2) a conductor
 - (3) semi conductor
 - (4) none of these
23. Silk is a natural animal fibre obtained from silk worms named
- (1) Bombyx mori
 - (2) Bombay morix
 - (3) Morus alba
 - (4) None of these
24. On a full moon day, what will be the positions of the Sun, Earth and Moon?
- (1)  Sun Moon Earth
 - (2)  Sun Earth Moon
 - (3)  Earth Sun Moon
 - (4) None of these
25. Acid indigestion in the stomach is typically neutralized by the ingestion of
- (1) Sodium hydroxide
 - (2) Sodium carbonate
 - (3) Sodium bicarbonate
 - (4) None of these
26. Seasonal changes occur because
- (1) Of green house gases
 - (2) Earth's rotation on its axis
 - (3) Earth's axis of rotation is tilted at an angle to the normal
 - (4) None of these
27. Metal handles of pans which we use in kitchen are often made of bakelite. This is to
- (1) Reduce heat emission
 - (2) Reduce heat conduction
 - (3) Increase heat absorption

(4) None of these

28. Global warming is the

- (1) Increase in temperature of the atmosphere of earth
- (2) Moderate temperature of the atmosphere of earth.
- (3) Decrease in temperature of the atmosphere of earth.
- (4) None of these

29. Organisms in which both male and female gametes are present in the same individual are called

- (1) Unicellular
- (2) Amphibians
- (3) Hermaphrodites
- (4) None of these

30. Which system consists of a number of glands which release substances called hormones which regulate growth, development, behaviour and reproduction in human beings?

- (1) Respiratory system
- (2) Endocrine system
- (3) Digestive system
- (4) None of these

31. Lightning conductor are used to protect tall building because

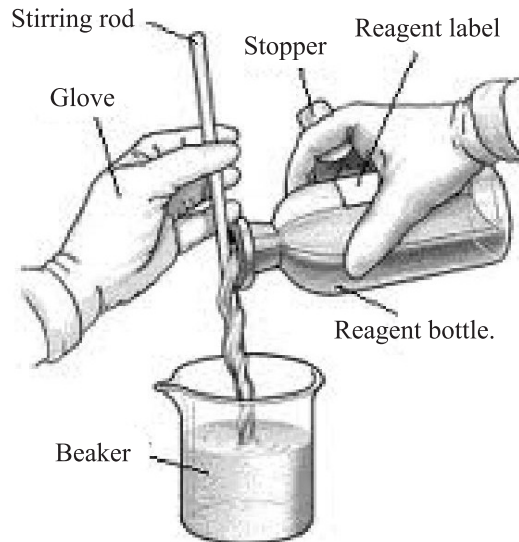
- (1) If lightning strikes the building, it will absorb the lightning by itself and thus protect the building
- (2) If lightning strikes the building, it will form a protective shield around the building.
- (3) If lightning strikes the building, it flows harmlessly to the earth through the metal rod and no damage is done to the building.
- (4) None of these

32. Nitrogen fixation is necessary because

- (1) Plants and animals are not able to take atmospheric nitrogen directly.
- (2) Plants and animals are able to take atmospheric nitrogen directly.
- (3) Plants and animals require nitrogen quite frequently
- (4) None of these

33. The diagram shows the dispensing of a liquid in the laboratory. The main reason that liquid should be

dispensed from a reagent bottle in this manner

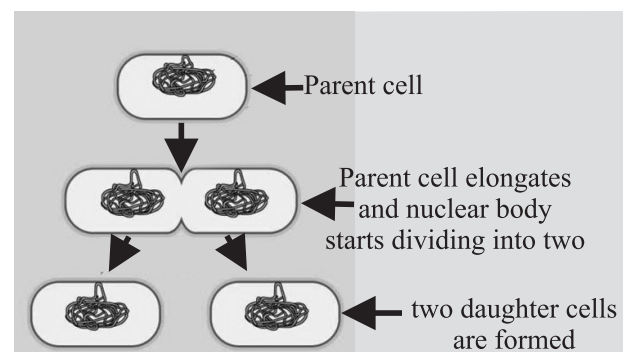


- (1) The liquid's increased surface area absorbs more oxygen.
- (2) The beaker causes liquids of different densities to form layers.
- (3) The stirring rod keeps the liquid from splashing.
- (4) None of these

34. Species of plants and animals which are found exclusively in a particular area are called

- (1) Endangered species
- (2) Endemic species
- (3) Extinct species
- (4) None of these

35. The following diagram shows which mode of reproduction in bacteria.



- (1) Budding
- (2) Conjugation
- (3) Binary fission
- (4) None of these

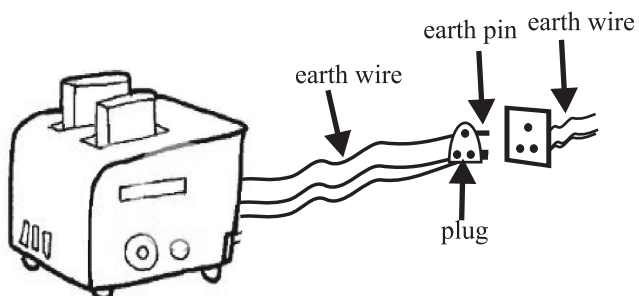
36. Which of the following is not a method of water conservation?

- (1) Drip irrigation
- (2) Water harvesting
- (3) Cutting of trees to prevent water loss through transpiration.

- (4) None of these
37. Which of the following is not a natural cause of deforestation?
- (1) Procuring land for cultivation
 - (2) Forest fires
 - (3) Severe droughts
 - (4) None of these
38. Fix a white sheet of paper on a table. Make 2 plane mirrors stand on the paper such that one of their vertical edges touch each other. Adjust the angle between the mirrors to 60° and keep a pencil between the mirrors. How many images of the pencil are formed?
- (1) 3
 - (2) 5
 - (3) 7
 - (4) None of these
39. Biodiversity refers to
- (1) the variety of living organisms in a specific area.
 - (2) the areas meant for conservation and preservation of forest and wild animals.
 - (3) Both 1 and 2
 - (4) None of these
40. A tester is used to check the conduction of electricity through two liquids labelled A and B. It is found that the bulb of the tester glows brightly for liquid A while it glows very dim for liquid B. We can conclude that
- (1) Liquid A is a better conductor than liquid B.
 - (2) Liquid B is a better conductor than liquid A.
 - (3) Both liquid are equally conducting.
 - (4) None of these

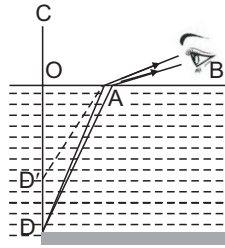
INTERACTIVE SECTION

41. The figure below shows a toaster connected to a plug. The purpose of connecting an electrical appliance to a wire buried in the earth is



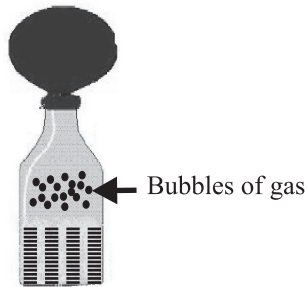
- (1) Touching a bare electric wire with current

- flowing through it can give a dangerous shock. To prevent shocks, electrical appliances are earthed.
- (2) Nothing will happen by touching a bare electricity wire with current flowing through it.
 - (3) The warranty of electrical appliance increases if they are earthed.
 - (4) None of these
42. When two bodies are rubbed against each other
- (1) One body acquires a charge and the other remains uncharged.
 - (2) They acquire equal and opposite charges.
 - (3) They acquire different amount of charges.
 - (4) None of these
43. When an electric bulb breaks, there is a mild bang due to
- (1) The air rushing in to fill the evacuated space in the bulb.
 - (2) The chemical reaction between the enclosed gas.
 - (3) The compressed gases rushing out suddenly
 - (4) None of these
44. Food articles are kept in a refrigerator and medicines are labelled 'store in a cool, dry place'. By keeping at low temperatures they are prevented from decay or destruction because
- (1) Bacteria are frozen
 - (2) Chemical reactions slow down there by protecting the food
 - (3) Bacteria like the cold temperature
 - (4) None of these
45. If one looks at the mirror, one finds an erect image but the right hand of the person is the left hand of the image. When one sees the image of a tree in water, one finds that the image is upside down. This is a case of
- (1) Lateral inversion
 - (2) Inversion
 - (3) Real image
 - (4) None of these
46. A swimming pool appears to be less deep than it actually is, when seen from outside. This shows that



- (1) Any optically rarer material when seen from an optically denser material appears less deep than it actually is.
- (2) Any optically denser material when seen from an optically rarer material appears less deep than it actually is.
- (3) A sharp image is formed between 25 cm and infinity on the retina.
- (4) None of these

47.



Dissolve yeast and sugar in a cup of warm water. Then pour the mixture into the bottle and attach a balloon to the mouth of the bottle. After several minutes, you will notice the balloon standing upright. This is because

- (1) Yeast dissolved in water enters the balloon from the bottle.
- (2) Water vapour from the bottle enters the balloon.
- (3) Yeast ferments sugar and expels carbon dioxide which fills the balloon.
- (4) None of these

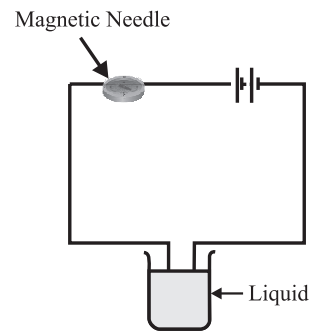
48. Fix a lighted candle on a table. Put a glass chimney over the candle in such a way that air can enter the chimney.

The candle burns freely. Now put a glass plate over the chimney. Watch the flame. We can see that the flame finely goes off. This experiment demonstrates that



- (1) Air is necessary for combustion.
- (2) Carbondioxide is necessary for combustion.
- (3) Combustion depends upon room temperature.
- (4) None of these

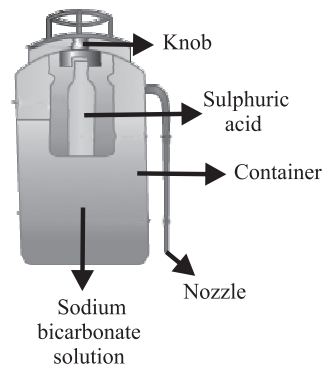
49.



Name 2 liquids which when tested in the manner given above may cause the magnetic needle to deflect

- (1) Distilled water and lemon juice
- (2) Vinegar and lemon juice
- (3) Distilled water and honey
- (4) None of these

50.



Most of the public places have fire extinguishers. Now a days they are available in smaller sizes for house hold purposes. What is the chemical reaction taking place to extinguish fire?

- (1) The sodium bicarbonate solution is liberated with great force which cuts off the air supply to the fire
- (2) The sulphuric acid is liberated which is responsible for extinguishing the fire.
- (3) Carbondioxide gas is liberated with great force which cuts off the air supply to the fire due to which it gets extinguished.
- (4) None of these



END OF THE EXAM