



EHF
LEARNING FOR LIFE

**EDUHEAL
FOUNDATION**

**CLASS
10**

LEVEL - 1

Set A1

EHF OLYMPIADS

- 4000 schools • 6 lakh students
- 11 olympiads • Global reach



EHF

**NATIONAL INTERACTIVE
SCIENCE OLYMPIAD**

Name :

Roll No :

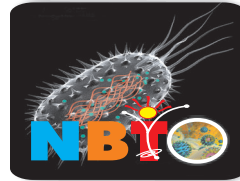
Class :

School :



art and sports clinic contest

**NATIONAL
BIOTECHNOLOGY
OLYMPIAD**



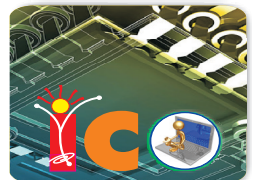
**NATIONAL
INTERACTIVE
MATHS
OLYMPIAD**



**NATIONAL
INTERACTIVE
SCIENCE
OLYMPIAD**



**INTERNATIONAL
CYBER
OLYMPIAD**



**INTERNATIONAL
ENGLISH
OLYMPIAD**



**INTERNATIONAL
GENERAL KNOWLEDGE
OLYMPIAD**



BSE
INVESTORS' PROTECTION FUND

BSE international finance olympiad (BIFO)



NATIONAL IIT-PMT OLYMPIAD (NIPO)

Instructions for the Candidate

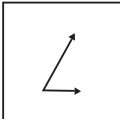
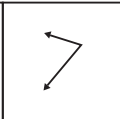
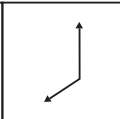
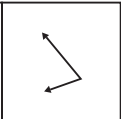
1. You are allowed additional 10 minutes to fill the required details in the RESPONSE SHEET (OMR).
2. The question paper is made as per syllabus guidelines & pattern given in the information Booklet. The Question Paper for Classes 1 to 6 contains 40 Questions each to be answered in 60 minutes. The Question paper for classes 7 to 11 contains 60 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.

WEBSITE : WWW.EDUHEALFOUNDATION.ORG
E-MAIL : INFO@EDUHEALFOUNDATION.ORG

ROUGH WORK

GENERAL IQ

- What is the number when its square is added to it, the result is 240?
(1) 16 (2) 15
(3) 17 (4) 14
- Complete the following letter series: ZYX, VW, UTS, QR, PON, LM, KJI?
(1) IJ (2) KL
(3) GH (4) MN
- Complete the following letter series: N M K L J I G H F E?
(1) DF (2) CD
(3) KG (4) MO
- Choose the figure which is different.

			
(1)	(2)	(3)	(4)

(1) 1 (2) 2
(3) 3 (4) 4
- If banana is apple, apple is grapes, grapes is mango, mango is nuts, nuts is guava, which of the following is a yellow fruit?
(1) Mango (2) Guava
(3) Apple (4) Nuts
- Cookbook : Recipes ::
(1) Film : Reviews
(2) Manual : Instructions
(3) Magazine : Subscriptions
(4) Paperback : Editions
- EAT-5120, BEAT-25120. What is TREAT?
(1) 2035120 (2) 205120
(3) 18512020 (4) 20185120
- There are four boys. Ram is shorter than Jagdish. Dinesh is taller than Ram but shorter than Jagdish. Jagat is shorter than Jagdish but taller than Dinesh. Who is the shortest?
(1) Jagdish (2) Ram
(3) Dinesh (4) Jagat
- If you take the first alphabet of each word in this proverb, Birds of same flock fly together, and reverse the order it will form the following word.
(1) BOSFFT (2) TFFSOB
(3) TFSFOB (4) TSSFOB
- How many metres will I be away from my home if I travel 5 metres towards north, take a right and travel 4 metres and travel 5 metres towards south?
(1) 5 (2) 4
(3) 10 (4) 14

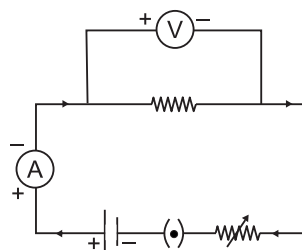
GENERAL SCIENCE

- When the gases sulphur dioxide and hydrogen sulphide mix in the presence of water, the reaction $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$ occurs. Here, hydrogen sulphide is acting as
(1) an oxidising agent (2) a reducing agent
(3) a dehydrating agent (4) a catalyst
- Aluminium is used in thermite welding because
(1) aluminium is a light metal
(2) aluminium has more affinity for oxygen
(3) aluminium is a strong oxidising agent
(4) aluminium is a reactive metal
- In the following equations:
 $\text{Na}_2\text{CO}_3 + x\text{HCl} \rightarrow 2\text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$ the value of x is
(1) 1
(2) 2
(3) 3
(4) 4

14. The oceans cover almost _____ percent of the surface of Earth with water and act as a vast collector of _____ energy.
- (1) 71, chemical (2) 97, solar
(3) 71, solar (4) 17, hydroenergy
15. A solution reacts with crushed egg-shells to give a gas that turns lime-water milky. The solution contains
- (1) NaCl (2) HCl
(3) LiCl (4) KCl
16. The coil of a heater is cut into two equal halves and only one of them is used in the heater. The ratio of the heat produced by this half of the coil to that produced by the original coil is
- (1) 2 : 1 (2) 4 : 1
(3) 1 : 2 (4) 1 : 4
17. 10 mL of a solution of NaOH is found to be completely neutralised by 8 mL of a given solution of HCl. If we take 20 mL of the same solution of NaOH, the amount of HCl solution (the same solution as before) required to neutralise it will be
- (1) 4 mL (2) 8 mL
(3) 12 mL (4) 16 mL
18. Which of the following can't be used to make a solar cell?
- (1) Silicon (2) Platinum
(3) Gallium (4) Germanium
19. Which of the following is not associated with Fleming's left hand rule?
- (1) Resistance (2) Magnetic field
(3) Force (4) Current
20. At many places in the ocean, the difference in temperatures between the water 'at the surface of ocean' and 'at deeper levels' is upto
- (1) 120°C (2) 80°C
(3) 50°C (4) 20°C
21. A stream of positively charged particles (alpha particles) moving towards west is deflected towards north by a magnetic field. The direction of magnetic field is
- (1) towards south (2) towards east
(3) downward (4) upward
22. Which of the following type has the longest small intestine?
- (1) Carnivores (2) Omnivores
(3) Herbivores (4) Autotroph
23. Which of the following shows thigmonastic response?
- (1) Sun flower
(2) Insectivorous plants
(3) Lotus
(4) Bryophyllum
24. Which two organs are connected by pons with the help of transverse band of nerves?
- (1) Nerves of brain and spinal cord
(2) Both the cerebral hemispheres
(3) Cerebellum and central nervous system
(4) Sympathetic and parasympathetic
25. In Rhizopus, tubular thread-like structures bearing sporangia at their tips are called
- (1) Filaments (2) Hyphae
(3) Rhizoids (4) Roots
26. The alternate forms of a gene are called
- (1) Homologous genes (2) Companion genes
(3) Traits (4) Alleles
27. In dihybrid cross, the genotype ratio of F₂ generation is
- (1) 1 : 1 : 1 : 1 (2) 9 : 3 : 3 : 1
(3) 1 : 2 : 2 : 1 (4) 1 : 3 : 1 : 1
28. ABO bloods system is controlled by a gene I. The number of alleles of this gene are
- (1) Two (2) Five
(3) Three (4) Many

29. In which environments, external fertilization takes place?
- Dry environments
 - Aquatic environments
 - Within mother body
 - All of these
30. In which groups of vertebrates, external fertilization takes place?
- Third and Fourth
 - Last Two
 - First Two
 - First and Third
31. Useful materials filtered out in nephric filtrate are mostly reabsorbed in the area of
- Bowman's capsule
 - Distal convoluted tubule
 - Loop of Henle
 - Proximal convoluted tubule
32. Every plant cell has a dump for waste products. It is
- Cytoplasm
 - Central vacuole
 - Golgi apparatus
 - Lysosome
33. Energy is required in phloem transport during
- Passage through sieve tubes
 - Loading
 - Unloading
 - Both (2) and (3)
34. During ventricular systole, the tricuspid and bicuspid valves are not pushed into auricles due to presence of
- Chordae tendineae
 - Papillary muscles
 - Columnae carnae
 - Both (2) and (3)
35. The muscles taking part in expansion of thoracic cavity during inhalation are
- Internal intercostal muscles
 - External intercostal muscles
 - Phrenic muscles
 - Both (2) and (3)

36. Which two circuit components are shown connected in parallel in the following circuit diagram?



- Rheostat and Voltmeter
 - Voltmeter and Ammeter
 - Voltmeter and Resistor
 - Ammeter and Resistor
37. If a student while studying the dependence of current on the potential difference keeps the circuit closed for a long time to measure the current and potential difference, then
- ammeter's zero error will change.
 - ammeter will show more reading than the actual one.
 - voltmeter will show higher readings than actual one.
 - resistor will get heated up and its value will change.
38. Choose the incorrect statement:
- We are encouraged to plant more trees so as to ensure clean environment and also provide biomass fuel.
 - Gobar-gas is produced when crops, vegetable wastes etc., decompose in the absence of oxygen.
 - The main ingredient of biogas is ethane and it gives a lot of smoke and also produces a lot of residual ash.
 - Biomass is a renewable source of energy.
39. Number of prisms used in a periscope is
- 2
 - 4
 - 1
 - 3
40. Which of the following statements is not applicable to carbon compounds?
- They have low melting and boiling points.
 - They are ionic in nature.
 - They form homologous series.
 - They are generally soluble in organic solvents.

INTERACTIVE SECTION

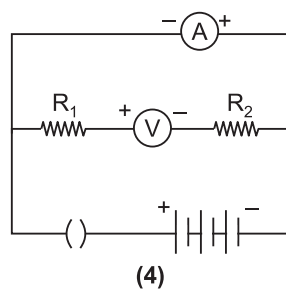
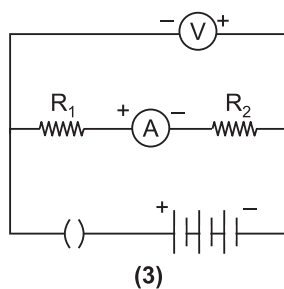
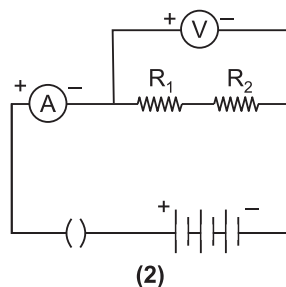
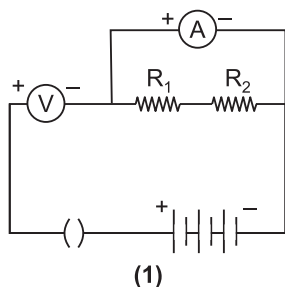
41. A student tested the pH of distilled water and found that the colour of the pH paper changed to green. He checked the pH again after dissolving a pinch of common salt in it. The colour of the pH paper this time was

- (1) green (2) yellow
(3) red (4) blue

42. In an experiment, the image of a distant object formed by a concave mirror is obtained on a screen. To determine the focal length of the mirror, you need to measure the distance between the

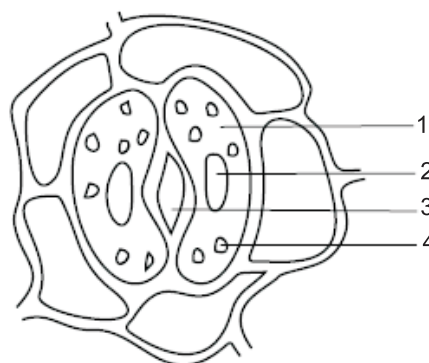
- (1) mirror and the screen.
(2) mirror and the object.
(3) object and the screen.
(4) mirror and the screen and also between the object and the screen.

43. The correct way of connecting the ammeter and voltmeter with a series combination of two resistors in a circuit for finding their equivalent resistance, is shown in diagram.



- (1) 1
(2) 2
(3) 3
(4) 4

44. A student draws the following sketch of stomatal apparatus and numbers the parts to label them.



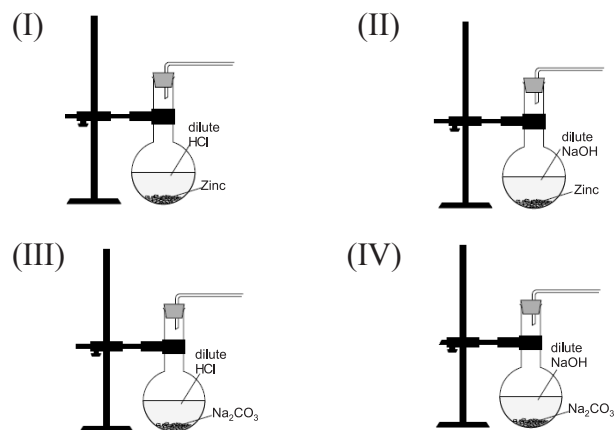
The chloroplast is denoted by

- (1) 1 (2) 2
(3) 3 (4) 4

45. The teacher instructed a student to place a healthy potted shoe flower plant in a dark room for 24 hours prior to an experiment on photosynthesis. The purpose of placing it in a dark room is

- (1) to increase the intake of CO_2 .
(2) to activate the chloroplasts in the leaves.
(3) to de-starch the leaves.
(4) to denature the enzymes in the leaves.

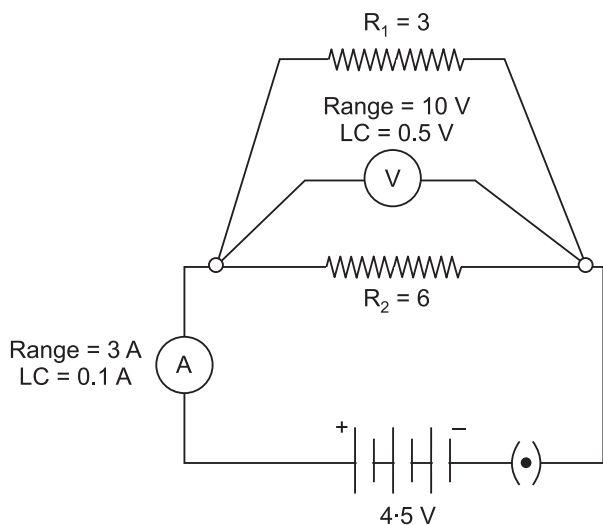
46. Four experimental set ups are shown below.



The set ups that would result in a rapid evolution of gas would be

- (1) I and III (2) II and IV
(3) I and II (4) III and IV

47. The voltmeter, ammeter and resistance in the circuit shown have been checked and found to be correct. On plugging the key, the voltmeter reads 4.5 V, but the ammeter reads 1.5 A.



This could most likely be because the wires joined to

- (1) the resistor R_1 are loose.
 - (2) the resistor R_2 are loose.
 - (3) both the resistors R_1 and R_2 are loose.
 - (4) the ammeter terminals are loose.
48. The following apparatus is available in a laboratory:
- Battery : adjustable from 0 to 4.5 volt
- Resistors : 3Ω and 6Ω
- Ammeters : A1 of Range 0 to 3 A; Least Count 0.1 A
A2 of Range 0 to 1 A; Least Count 0.05 A
- Voltmeters : V1 of Range 0 to 10 V; Least Count 0.5 V
V2 of Range 0 to 5 V; Least Count 0.1 V

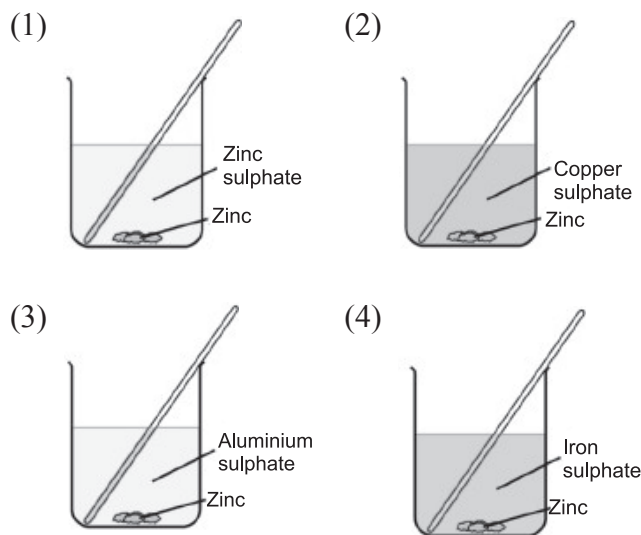
The best combination of voltmeter and ammeter for finding the equivalent resistance of the resistors in series would be

- (1) ammeter A1 and voltmeter V1.
- (2) ammeter A1 and voltmeter V2.
- (3) ammeter A2 and voltmeter V1.
- (4) ammeter A2 and voltmeter V2.

49. In an experiment on photosynthesis, a student fixed a strip of black paper on the dorsal surface of a Bougainvillea leaf in the morning. In the evening she tested the leaf for starch. The result was

- (1) the dorsal surface of the leaf was white but the ventral surface turned blue.
- (2) both the surfaces of the covered portion remained white.
- (3) the entire leaf turned blue black.
- (4) the entire leaf remained white.

50. Zinc granules were added to zinc sulphate, copper sulphate, aluminium sulphate and iron sulphate solutions as shown below. You would observe the deposition of metal on zinc in beakers.



- (1) I and III.
- (2) II and IV.
- (3) I and II.
- (4) III and IV.

51. The attribute used to specify an alternative text that a browser will display if the image cannot be displayed.

- (1) ALT
- (2) ALIGN
- (3) SRC
- (4) CTRL

52. Gaurav wants to change the font of the paragraph to "courier". What he should add in the code?

```
<p>This is a paragraph.</p>
```

- (1) Style="font-family:courier"
- (2) Font size="font-family:courier"
- (3) Font="font-family:courier"
- (4) Size="font-family:courier"

53. What is meant by one cycle of A.C.?

- (1) Going from zero to + maximum.
- (2) Going from + maximum to zero.
- (3) Going from zero to – maximum and – maximum to zero.
- (4) All the three mentioned above combined together in same order.

54. Several electric bulbs designed to be used on a 220 V electric supply are rated 20 W each. How many lamps can be connected in parallel with each other across the two wires of 220 V line if the maximum allowable current is 5 A?

- (1) 50
- (2) 110
- (3) 55
- (4) 60

55. When sodium bisulphite reacts with hydrochloric acid, the products formed are

- (1) NaCl, H₂O and SO₂
- (2) Na₂SO₄ and NaCl
- (3) NaCl and H₂S
- (4) No reaction takes place

56. Which of the following statements is incorrect?

- (1) The conjugate base of H₂PO₄⁻ is HPO₄²⁻.
- (2) The pH of 1 M HCl is 0.
- (3) H₃PO₃ is a tribasic acid.
- (4) The concentration of H⁺ ions in pure water is 10⁻⁷ mol L⁻¹ at 298 K.

57. Which out of following hydrocarbons undergo addition reactions?

C₂H₆, C₃H₈, C₃H₆, C₂H₂ and CH₄

- (1) C₂H₆ and C₃H₈
- (2) C₃H₆ and C₂H₂
- (3) CH₄ and C₂H₆
- (4) C₃H₈ and C₂H₂

58. Match the following:

- | | |
|----------------|------------------|
| (i) Vinegar | P. Tartaric acid |
| (ii) Orange | Q. Oxalic acid |
| (iii) Tamarind | R. Acetic acid |
| (iv) Tomato | S. Citric acid |

- (1) (i)-Q, (ii)-R, (iii)-P, (iv)-S
- (2) (i)-R, (ii)-Q, (iii)-P, (iv)-S
- (3) (i)-R, (ii)-S, (iii)-P, (iv)-Q
- (4) (i)-S, (ii)-Q, (iii)-R, (iv)-P

59. Arrange the following atoms in the order of increasing atomic radius:

F, Cl, C, O

- (1) F, Cl, O, C
- (2) C, O, F, Cl
- (3) O, C, F, Cl
- (4) F, O, C, Cl

60. In `GIF"`
`ALIGN="center">`

ALIGN is

- (1) A tag
- (2) The head
- (3) The body
- (4) An attribute



END OF THE EXAM