



Educamy Scholarship & Aptitude Test

IIT JEE | NEET UG | Class 10 - 11

STUDENTS PRESENTLY STUDYING IN
CLASS-10th

SAMPLE TEST PAPER

₹5CRORE SCHOLARSHIP
REWARD

Exam Pattern: Phy : 10 | Chem : 10 | Math: 10 | Bio: 10 - Total Question: 40

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EDUSAT (EDUCAMY SCHOLASTIC APTITUDE TEST)

Course for JEE & NEET 2027-2029

SAMPLE TEST PAPER

[For Students presently in Class 10th going to Class 11th]

DURATION : 90 Minutes

M.MARKS : 160

General Instructions:

1. This Question paper contains FOUR Parts, I to IV (Physics, Chemistry, Mathematics & Biology).
2. This Question Paper contains 10 pages including the cover page.
3. This question paper contains total **40 questions** (10 questions each in **Physics, Chemistry, Mathematics and Biology**).
4. The Question Paper has blank spaces at the bottom of each page for rough work. No additional sheets will be provided for rough work.
5. Blank papers, clip boards, log tables, slide rule, calculators, cellular phones, pagers and electronic gadgets, in any form, are NOT allowed.
6. The **OMR** (Optical Mark Recognition) sheet shall be provided separately.

Answering on the OMR

7. In all the parts, each question will have **4 choices** out of which **only one choice is correct**.
8. Darken the bubble with **Ball Pen (Blue or Black) ONLY**.

Filling OMR

9. On the OMR sheet, fill all the details properly and completely, otherwise your OMR will not be checked.

Marking Scheme:

10. For each question you will be awarded **(+4) marks** if you darken the bubble corresponding to the correct answer. There is no negative marking.

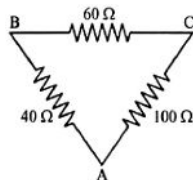
Name :

SECTION-I (PHYSICS)**STRAIGHT OBJECTIVE TYPE**

1. A diminished image of an object is to be obtained on a screen 1.0 m from it. This can be achieved by appropriately placing.
(A) A convex lens of focal length more than 0.25 m
(B) A convex mirror of suitable focal length
(C) A convex lens of focal length less than 0.25 m
(D) A concave lens of suitable focal length
2. The size of the image of an object, which is at infinity, as formed by a convex lens of focal length 30 cm is 2 cm. If a concave lens of focal length 20 cm is placed between the convex lens and the image at a distance of 26 cm from the convex lens, calculate the new size of the image
(A) 1.25 cm (B) 1.67 cm (C) 1.05 cm (D) 2 cm
3. Which of the following lens can form image of an object on screen?
(A) Concave (B) Convex
(C) Both convex and concave (D) None of these
4. To obtain a diminished image of an object, formed by a convex lens, where should the object must be placed?
(A) between F and 2F (B) at F
(C) between infinity and 2F (D) at 2F
5. A point object is placed at the centre of a glass sphere of radius 6 cm and refractive index 1.5. The distance of virtual image from the surface is:
(A) 6 cm (B) 4 cm (C) 12 cm (D) 9 cm
6. A cylindrical rod is reformed to twice its length with no change in its volume. If the resistance of the rod was R, the new resistance will be:
(A) R (B) 2R (C) 4R (D) 8R

SPACE FOR ROUGH WORK

7. A 24 V potential difference is applied across a parallel combination of four 6 ohm resistor. The current in each resistor is:
- (A) 1 A (B) 4 A (C) 16 A (D) 36 A
8. Three resistors are connected to form the sides of a triangle ABC as shown below.



- The resistance of side AB is 40 ohms, of side BC 60 ohms and of side CA 100 ohms. The effective resistance between A and B will be:
- (A) 50 Ω (B) 64 Ω (C) 32 Ω (D) 100 Ω
9. Three resistances of 2, 3 and 5 Ω are connected in parallel to a 10 V battery of negligible internal resistance. The potential difference across the 3 Ω resistance will be:
- (A) 2V (B) 3V (C) 5V (D) 10V
10. Charge on an electron is 1.6×10^{-19} coulomb. Number of electrons passing through the wire per second on flowing of 1 ampere current through the wire will be:
- (A) 0.625×10^{-19} (B) 1.6×10^{-19} (C) 1.6×10^{-19} (D) 0.625×10^{19}

SPACE FOR ROUGH WORK

SECTION-II (CHEMISTRY)

STRAIGHT OBJECTIVE TYPE

11. Lime water is

(A) CaO	(B) Ca(OH)_2
(C) CaCO_3	(D) CaC_2
12. Which of the following does not form an acidic salt?

(A) Phosphoric acid	(B) Carbonic acid
(C) Hydrochloric acid	(D) Sulphuric acid
13. Which of the following is used to oxidise ethanol to ethanoic acid?

(A) Alkaline KMnO_4	(B) Conc. H_2SO_4
(C) Acidified $\text{K}_2\text{Cr}_2\text{O}_7$	(D) All of above
14. Which of the following can be used for the denaturation of ethyl alcohol?

(A) Methyl alcohol	(B) Pyridines
(C) Copper sulphate	(D) All of above
15. The chemical formula of lead sulphate is

(A) Pb_2SO_4	(B) $\text{Pb(SO}_4)_2$
(C) PbSO_4	(D) $\text{Pb}_2(\text{SO}_4)_3$

SPACE FOR ROUGH WORK

16. The electrolytic decomposition of water gives H_2 and O_2 in the ratio of
- (A) 1 : 2 by volume (B) 2 : 1 by volume
(C) 8 : 1 by mass (D) 1 : 2 by mass
17. The second most abundant metal in the earth's crust is
- (A) Oxygen (B) Silicon
(C) Aluminium (D) Iron
18. The bronze medals are made up of
- (A) Cu and Zn (B) Zn and Ni
(C) Cu and Sn (D) Cu, Zn, Tn
19. An element has an atomic number of 15 with which of the following elements will it show similar chemical properties.
- (A) Be (4) (B) Ne (10)
(C) N (7) (D) O (8)
20. Identify the wrong sequence of the elements in a group
- (A) Ca, Br, Ba (B) Cu, Au, Ag
(C) N, P, As (D) Cl, Br, I

SPACE FOR ROUGH WORK

SECTION-III (MATHEMATICS)**STRAIGHT OBJECTIVE TYPE**

21. A die is thrown once. The probability of getting a number greater than 4 is
- (A) $\frac{1}{2}$ (B) $\frac{2}{3}$
(C) $\frac{1}{3}$ (D) 1
22. The value of $\sin^2 \theta + \frac{1}{1 + \tan^2 \theta}$ is
- (A) $2\sin^2 \theta$ (B) 1
(C) $\sin^2 \theta - \cos^2 \theta$ (D) 0
23. If a cylinder is covered by two hemispherical lid of equal shape, then the total curved surface area of the new object will be (where r is the radius and h is the height of cylinder)
- (A) $4\pi rh + 2\pi r^2$ (B) $4\pi rh - 2\pi r^2$
(C) $2\pi rh + 4\pi r^2$ (D) $2\pi rh + 4\pi r$
24. Suppose mean of 10 observations is 12.5 and each observation is multiplied by 5, then what is the new mean?
- (A) 50 (B) 62.5
(C) 60 (D) 48.2
25. Find the value of $3 \sin 30^\circ - 4 \sin^3 60^\circ$.
- (A) $3 - \sqrt{3}$ (B) $\frac{3(1 - \sqrt{3})}{2}$
(C) $\frac{3\sqrt{3} - 1}{2}$ (D) $-\frac{3}{2}$

SPACE FOR ROUGH WORK

26. Which term of the AP : 21, 18, 15,... is -81?
- (A) 34 (B) 36
(C) 35 (D) 33
27. The distance between the points A(x₁, y₁) and B(x₂, y₂) is
- (A) $\sqrt{(x_1 + x_2) + (y_1 + y_2)}$ (B) $\sqrt{(x_1 + x_2)^2 + (y_1 + y_2)^2}$
(C) $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ (D) $\sqrt{(x_1 - x_2) + (y_1 - y_2)}$
28. If a = 2 and 20th term = 62, then the sum of first 20 terms of an AP is
- (A) 1200 (B) 640
(C) 600 (D) 1280
29. If the product of the zeroes of the polynomial $mx^2 - 6x - 6$ is -3, then the value of m is
- (A) 6 (B) 2
(C) -2 (D) -3
30. If in $\triangle ABC$ and $\triangle DEF$, $\frac{AB}{DE} = \frac{BC}{FD}$, then they will be similar, when
- (A) $\angle B = \angle E$ (B) $\angle A = \angle D$
(C) $\angle B = \angle D$ (D) $\angle A = \angle F$

SPACE FOR ROUGH WORK

SECTION-IV (BIOLOGY)

STRAIGHT OBJECTIVE TYPE

31. Which cell organelle is mainly responsible for the production of energy in a cell?
(A) Ribosome (B) Mitochondria (C) Golgi apparatus (D) Lysosome
32. Which tissue is mainly responsible for the transport of water and minerals in plants?
(A) Phloem (B) Xylem (C) Parenchyma (D) Collenchyma
33. Which of the following is an example of asexual reproduction?
(A) Fertilisation in humans (B) Budding in Hydra
(C) Pollination in plants (D) Formation of gametes in humans
34. Which gas is primarily taken up by plants from the atmosphere during photosynthesis?
(A) Oxygen (B) Nitrogen (C) Carbon dioxide (D) Hydrogen
35. Which organ is primarily responsible for filtering the blood and removing nitrogenous wastes in humans?
(A) Heart (B) Lungs (C) Kidneys (D) Liver

SPACE FOR ROUGH WORK

36. If the rate of transpiration in a plant increases considerably, which of the following is most likely to occur?
- (A) Increased loss of water (B) Complete stoppage of photosynthesis
(C) Stoppage of water absorption by roots (D) Destruction of phloem
37. What is considered the basic unit of heredity?
- (A) Chromosome (B) Gene (C) Nucleotide (D) Cell
38. Deficiency of which hormone can lead to diabetes mellitus?
- (A) Thyroxine (B) Insulin
(C) Growth hormone (D) Adrenaline
39. How does energy flow through a food chain?
- (A) In both directions (B) In a cyclic manner
(C) In a unidirectional manner (D) Only from decomposers to producers
40. An organism having two identical alleles for a particular trait is called:
- (A) Heterozygous (B) Homozygous (C) Dominant (D) Recessive

SPACE FOR ROUGH WORK