

NEW STANDARD ACADEMY

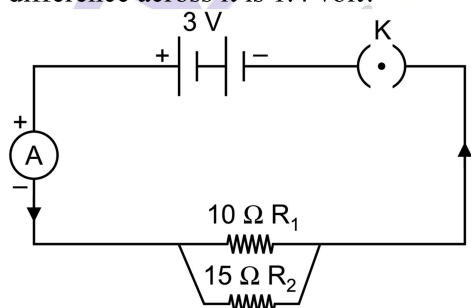
Exam :
Date : 11-09-23

NEET - JEE
CLASS : 10TH M

Marks: 60
Time: 3 HRS

PHYSICS

- Find the number of electrons transferred between two points kept at a potential difference of 20 V if 40 J of work is done.
- State the formula co-relating the electric current flowing in a conductor and the voltage applied across it. Also, show this relationship by drawing a graph.
What would be the resistance of a conductor, if the current flowing through it is 0.35 ampere when the potential difference across it is 1.4 volt?



- On what factors does the resistance of a conductor depend?
- (a) State the reasons which lead to hypermetropia. With the help of suitable diagram, explain this defect of vision and its correction.
(b) Draw diagram of an experimental arrangement for observing scattering of light in colloidal solution. Name the two chemicals used in this activity.
- A 4.5 cm needle is placed 12 cm away from a convex mirror of focal length 15 cm. Give the location of image and magnification. Describe what happens to the image as the needle is moved farther from the mirror.
(a) State Snell's law of refraction.
(b) When a ray of light travelling in air enters obliquely into a glass slab, it is observed that the light ray emerges parallel to the incident ray but it is shifted sideways lightly. Draw a ray diagram to illustrate it.
- A student wants to project the image of a candle flame on a screen 60 cm in front of a mirror by

keeping the flame at a distance of 15 cm from its pole.

- Write the type of mirror he should use. (b) Find the linear magnification of the image produced.
- What is the distance between the object and its image?
- Draw a ray diagram to show the image formation in this case.

CHEMISTRY

- Properties of covalent bond (5 Prop.) covalency determine.
- What is hydrocarbon and flow of chart some point and formula, structure do it.
a. Alkanes b. alkenes c. Alkynes
d. Cycloalkanes e. Homologous series
- varstaide nature of carbon show it.
- What is electro refining and Cu Metal, also called as Anode Mud.
- Short term (Examples) (No of two)
a. Roasting b. Colcinatino
c. Ionic bond d. Smelting
- Reaction are Completed
 $\text{Cu} + \text{Con}(\text{HNO}_3) \rightarrow$
 $\text{Zn} + \text{dilHNO}_3 \rightarrow$
 $\text{Mn} + \text{dilHNO}_3 \rightarrow$
 $\text{NaH} + \text{H}_2\text{O} \rightarrow$
 $\text{Fe} + \text{H}_2\text{O} \rightarrow$
 $\text{Al}_2\text{O}_3 + \text{HCl} \rightarrow$
 $\text{S} + \text{HNO}_3 \rightarrow$
 $\text{P} + \text{HNO}_3 \rightarrow$
 $\text{Mg} + \text{H}_2\text{O} \rightarrow$

BIOLOGY

- What is ecology, who give the term ecology and Indian father of ecology.
- Describe the component of an ecosystem with example
- What is biomagnification, which element accumulate causes Minimata and fluorisis disease
- Give the difference between food chain and food web with example.

Construct the grazing food chain also give the trophic level, with five links -

Frog, Snake, grasshopper, vulture and grass
In the following food chain plants provide 300 joule of energy to Rats how much energy will be available to Snake and Hawks?

Plant- Rats- Snakes- Hawks

Define the ecological pyramids with suitable example

MATHS

1. A sphere and a cube have the same surface area. What is the ratio of the square of volume of the sphere to the square of volume of the cube?
2. A rectangular paper 11 cm by 8 cm can be exactly wrapped to cover the curved surface of a cylinder of height 8 cm. What is the volume of the cylinder?
3. If the total surface area of a solid hemisphere is 462 cm^2 , find its volume.
4. A rectangular sheet of paper $40 \text{ cm} \times 22 \text{ cm}$ is rolled to form a hollow cylinder of height 40 cm. Find the radius of the cylinder.
5. Find the volume (in cm) of the largest right circular cone that can be cut off from a cube of edge 4.2 cm.
6. Two cubes of 5 cm each are kept together joining edge to edge to form a cuboid. Find the surface area of the cuboid so formed.
7. A wooden article was made by scooping out a hemisphere of radius 7 cm, from each end of a solid cylinder of height 10 cm and diameter 14 cm. Find the total surface area of the article. (Use $\pi = \frac{22}{7}$)
8. Find the 9th term from the end (towards the first term) of the AP. 5, 9, 13, 185.
9. If the 2nd term of an AP is 8 and the 5th term is 17, find its 19th term.
10. The 4th term of an AP is zero. Prove that the 25th term of the AP is three times its 11th term.