

PHYSICS		Questions	Easy	Average	Difficult
<b>CLASS 11 NCERT Chapters</b>					
1	Physical world	0	0	0	0
2	Units and measurement	2	0	2	0
3	Motion in a straight line	1	0	1	0
4	Motion in a plane	0	0	0	0
5	Laws of motion	2	0	2	0
6	Work, Energy and power	1	1	0	0
7	System of particles and rotational motion	1	0	1	0
8	Gravitation	1	0	0	1
9	Mechanical properties of solids	1	1	0	0
10	Mechanical properties of liquids	3	0	1	2
11	Thermal properties of matter	1	1	0	0
12	Thermo-dynamics	1	1	0	0
13	Kinetic theory of gases	0	0	0	0
14	Oscillations	1	0	0	1
15	Waves	1	1	0	0
	<b>Class 11 Total</b>	<b>16</b>	<b>5</b>	<b>7</b>	<b>4</b>
<b>CLASS 12 NCERT Chapters</b>					
16	Electric charges and fields	1	1	0	0
	Electrostatic potential and capacitance	1	1	0	0
17	capacitance	1	1	0	0
18	Current electricity	1	1	0	0
19	Moving charges and magnetism	1	0	0	1
20	Magnetism and matter	1	1	0	0
21	Electromagnetic induction	0	0	0	0
22	Alternating current	1	0	1	0
23	Electromagnetic waves	2	2	0	0
24	Ray optics and optical instruments	2	0	2	0
25	Wave optics	1	0	1	0
26	Dual nature of matter and radiation	1	0	0	1
27	Atoms	1	0	1	0
28	Nuclei	0	0	0	0
29	Solid and semiconductor devices	1	1	0	0
30	Communication systems	0	0	0	0
	<b>Class 12 Total</b>	<b>14</b>	<b>7</b>	<b>5</b>	<b>2</b>
	<b>Total Class 11 &amp; 12</b>	<b>30</b>	<b>12</b>	<b>12</b>	<b>6</b>

### Units and measurement

30. This is a moderate level understanding concept based question from the topic: Errors in measurement. To find the correct instrument recall measuring instrument like vernier calipers.

1. This is a moderate level, understanding based question from the Topic: Errors in measurement. Use exponential function to get the result.

### **Motion in one dimension**

2. This is a moderate level, application based question from the topic-body falling under gravity. Apply equation of motion ( $V = u + gt$ ) for the particle thrown upwards from the tower for the 2 cases and find the relation b/w initial speed, height and ratio of time taken to hit ground and to reach highest point.

### **Laws of motion**

3. This is a moderate level, understanding concept based question from topic FBD; to find acceleration of block on release.

4. This is a moderate level, application based question from the topic – coefficient of friction & angle of friction; to find maximum height of block can be placed without slipping.

### **Work, Energy and Power**

5. This is an easy level application based question from the topic-work done in stretching a wire to find work done in stretching apply formula  $dw = Fdl$ .

### **Rotational motion**

6. This is a moderate level understanding concept based question from the topic- Angular momentum you have to find magnitude and direction of angular momentum.

### **Gravitation**

7. This is bit difficult question based on understanding and application covered under the topic- Gravitational force and centripetal force to calculate speed of each particle moving along a circle.

### **Mechanical properties of matter**

8. This is an easy level application based question from the topic- Modulus of elasticity. Apply formula  $\text{stress} = Y \Delta l / l$  to find pressure.

9. This is bit difficult understanding based question. Topic covered: Fluid mechanics. Equate pressure to find the density ratio.

10. This is bit difficult, understanding concept based question from the topic surface tension (Fluid mechanics).

13. This is a moderate level, understanding concept based question from the topic- Fluid pressure.

### **Heat and thermo-dynamics**

11. This is an easy level question, however question is bit lengthy. Topic-Heat Conduction in metallic rod. Apply relation between heat flow, conductivity and temperature to find rate of heat flow.

12. This is an easy level formula based question from the topic – Heat, internal energy and work in thermodynamics, use formula  $Du = nC_v Dt$  to find change in internal energy.

### **Simple Harmonic Motion**

14. This is bit difficult level, understanding situation based question from the topic: Simple Harmonic Motion.

### **Waves**

15. This is an easy level, formula based question from the topic: Standing Waves in organ pipe use formula  $f = (2n - 1)v/4L$  to find natural oscillations of air column in the pipe.

### **Electrostatics**

16. This is an easy level formula based question from the topic: Electrostatic potential. Use relation between potential electric field and distance to find potential difference.

17. This is an easy level formula based question from topic charge density. To find charge density use formula:  $E = s/Ke_0$ .

### **Current Electricity**

18. This is an easy level formula based question from the topic 'Heating effect of electric current.' Use formula  $watt = volt \times ampere$  to find the capacity of main fuse (in ampere).

21. This is a moderate level understanding based question from the topic: Kirchoff's law. Use Kirchoff's law to find the ratio of voltage across resistance and the inductor.

### **Magnetics**

19. This is a bit difficult question based on understanding the concept from the topic : Magnetic effect of current. You have to be find power required to move.

20. This is an easy level, formula based question from the topic Magnetic field due to a solenoid. Use formula  $B = \mu_0 ni$  to find the current.

### **Electromagnetic waves**

22. This is an easy level fact based question from the topic: Propagation of electromagnetic waves in a medium

29. This is an easy level fact based question from the topic: Uses of electromagnetic waves.

### **Optics**

23. This is a moderate level, Numerical problem based on the topic: Refraction at curved surface (Lens Maker's formula). To find relation between the focal length use Lens Maker's formula.

24. This is a moderate level, understanding based question from the topic: Relation b/w critical angle and the refractive index of the material.

25. This is a moderate level understanding concept based question from the topic: Polarisation of light. Use Malus law to find the ratio of initial intensities.

### **Modern physics**

26. This is difficult level understanding concept based question from the topic : Dual Nature of radiation and matter. You have to be find work function.

27. This is a moderate level concept based question from the topic: Hydrogen Spectrum and Spectral series. Use Balmer formula to get the result.

28. This is an easy level fact based question from the topic: Diode in forward and reverse bias. Recall the fact to get the answer.