



PHYSICS

BOOKS - NAVBODH PHYSICS (HINGLISH)

SHORT ANSWER QUESTIONS

Gravitation

1. Discuss what happens if a satellite is projected with a horizontal speed (1) less than

the critical orbital speed (2) equal to the critical orbital speed (3) more than the critical orbital speed but less than the escape speed (4) greater than or equal to the escape speed.



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2. State the conditions for various possible orbits of a satellite.



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3. The nature of the path of the satellite depends upon



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4. Draw a graph showing the variation of the gravitational acceleration due to the Earth with depth and altitude.



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1. State the expression for the total energy of a particle performing linear SHM. What conclusions can be drawn from the expression for the total energy ?



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2. Show that linear SHM is the projection of a uniform circular motion on any diameter.



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Elasticity

1. Discuss the factors on which the bending of a centrally loaded rectangular beam supported at its ends depends on.



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Surface Tension

1. 'Tents are coated with a thin layer of aluminium hydroxide.' Why ?



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2. What are the effects of (1) temperature on the angle of contact (2) impurity on the surface tension ?



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Stationary Waves

1. Give any two applications of resonance.



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2. Give any two disadvantages of resonance.



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Kinetic Theory Of Gases And Radiation

1. Define a reversible process. What is an irreversible process ?



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2. A refrigerator is the reverse of a heat engine. Explain.



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Wave Theory Of Light

1. What is a Polaroid ? State its two uses.



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Interference And Diffraction

1. State the conditions for constructive and destructive interference of light.



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2. State the conditions for obtaining a steady and distinct interference pattern.



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3. Draw a graph showing the intensity distribution of fringes due to diffraction at single slit



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Electrostatics

1. What do you mean by a polar molecule and a nonpolar molecule ? Give one example of each.



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Magnetic Effect Of Electric Current

1. What is a shunt ? State the functions of the shunt in modifying a galvanometer to an ammeter.



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Magnetism

1. What is the gyromagnetic ratio of an orbital electron ? State its formula and SI unit.



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2. Define magnetic intensity. State its dimensions and SI unit.



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3. What is a diamagnetic material? Give two examples.



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4. What is a paramagnetic material ? Give two examples.



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5. What is a ferromagnetic material ? Give two examples.



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Atoms Molecules And Nuclei

1. Explain the series of spectral lines for H-atom whose fixed inner orbit numbers are 3 and 4.



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2. Explain the two series of spectral lines for hydrogen arising due to transitions to energy levels corresponding to the principal quantum numbers 3 and 4.



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3. Obtain the ratio of the shortest wavelength of spectral line in the Lyman series to the longest wavelength of spectral line in the Balmer series.



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4. Draw the energy level diagram for the hydrogen atom, neatly labelled and showing the transitions which give rise to the first five series of spectral lines for hydrogen.



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5. Draw a neat labelled energy level diagram for H-atom showing the transitions.





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Semiconductors

1. State any four applications of LEDs.



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Communication Systems

1. Draw a block diagram of a generalized communication system.



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2. Explain the need for modulation.



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3. Draw a neat labelled block diagram of a detector of AM wave. Show the waveforms at

various stages.



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4. What are the drawbacks or limitations of amplitude modulation ?



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5. Draw a neat, labelled diagram showing different layers of the Earth's atmosphere.



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Assignments

1. Define the resolving power of a microscope.

How can it be increased ?



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2. State the advantages of a potentiometer over a voltmeter.



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3. State two advantages and two uses of a transistor as a switch.



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