PHYSICS

BOOKS - NAVNEET SCIENCE (HINGLISH)

SPACE MISSIONS

Solve The Example

1. If the mass of a Planet is eight times the mass of the earth and its radius is twice the

radius of the earth, what will be the escape velocity for that planet ?

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2. If the mass of a Planet is eight times the mass of the earth and its radius is twice the radius of the earth, what will be the escape velocity for that planet ?

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3. How much time would a satellite in an orbit at a height of 35780 km above the earth's surface take to complete one revolution around the earth , if the mass of the earth were four times its original mass ?

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4. If the height of a satellite completing one revolution around the earth in T seconds is h_1 metres, then what would be the height of a

satellite taking $2\sqrt{2}$ T seconds for one revolution ?

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5. Calculate the critical velocity (v_c) of the satellite to be located at 35780 km above the surface of the earth .

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6. In the above example (4) how much time will the satellite take to complete one revolution above 35780 km around the earth ?

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7. Calculate the critical velocity (v_c) of the satellite to be located at 35780 km above the surface of the earth .

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8. In the above example (4) how much time will the satellite take to complete one revolution above 35780 km around the earth ?

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Can You Recall

1. What is the differnce between space and sky ?

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2. What are different objects in the solar system?

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3. What is a satellite?

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4. How many natural satellites does the earth have?

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5. Which type of telelscopes are orbiting around the earth? Why it is neccesary to put them in space?

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6. Where does the signal in your cellphone come from?

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7. Where from do mobile towers receive the signals?

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8. Where does the signal to your TV set come from?

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9. You may have seen photographs showing the position of monsoon clouds over the country in the newspapaper. How are these images obtained?

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Fill In The Blanks And Explain The Statement With Reasoning

1. If the height of the orbit of a satellite from the earth surface is increased , the tangential

velocity of satellite will . . . . . .

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2. The initial velocity (during launching) of the Mangalyaan , must be greater than the .....of the earth.

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Fill In The Blanks

1. A man made object revolving around the earth in a fixed orbit is called ....?

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2. Chandrayaan-I discovered the presence of ... the moon?

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3. Apart from launching a satellite around the earth, India has been able to launch a satellite around...?

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4. All satellites work on ..... energy.

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5. ..... Are used to carry and place a satellite in a specific orbit?

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6. USA has developed ..... As an alternative to space launch vehicles.

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7. Hubble telescope is a ..... Satellite

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8. ..... Executed the first ever mission to the moon in the world.

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9. ..... Executed the first manned mission to the moon in the world.

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Select The Appropriate Answer From Given Options

1. Which one of the following is a Low Earth Orbit (LEO) satellite ?

A. Navigational satellite

B. Geotationary satellite

C. International Space Station

D. All of the above

Answer: A::C

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2. Which of the following satellite launchers is developed by India?

A. INSAT

B. IRNSS

C. EDUSAT

D. PSLV

Answer:

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3. Which of the following astronauts travelled through space shuttle 'Discovery' first time?

A. Kalpana chawla

B. Rakesh sharma

C. Sunita Williams

D. Neil Armstrong

Answer: A

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Considering The Correlation Between The Words Of The First Pair The Third Word Accordingly With Proper Answer Or Considering The First Correlation Complete The Second

1. IRNSS : Direction showing satellite :: INSAT : _____

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2. Hubble telescope : 569 km high from earth surface : : Revolving orbit of Hubble telescope:

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True Or False

1. If a spacecraft has to sent away from the influence of the earth's gravitational field, its velocity must be less than the escape velocity .

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2. The escape velocity on the moon is less than that on the earth.

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3. A satellite needs a specific velocity to revolve in a spacific orbit.

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4. If the height of the orbit of a satellite increases its velocity must decrease. State true/ false

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Answer The Following In One Sentence Each

1. What do you mean by the orbit of a satellite?

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2. Which factor decides the orbit of a satellite?

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3. What is a High earth orbit satellite?

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4. Give two examples of low Earth orbit satellites.

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5. What is a launch vehicle ?

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6. Name the launch vehicle developed by India?

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Answer The Following Question

1. What is the meant by an artifical satellite? How are the satellites classified based on their functions?

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2. What is meant by the orbit of a satellite? On what basis and how are the orbits of the artifical satellites classified?

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3. Why are geostationary satellites not useful for studies for polar regions? OR

Explain the following statement. A geostationary satellite is not useful in the study of polar regions.

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4. Why is it beneficial to use satellite launch vehicles made of more than on stage ?

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5. Explain the need and importance of space mission?

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6. What are space expeditions? Explain their need and importance in your worlds?

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7. What are the objective of the space mission?

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8. What is meant by space debris ? Why there is need to manage debris ?

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