

HOLIDAY HOMEWORK CLASS IX

PHYSICS

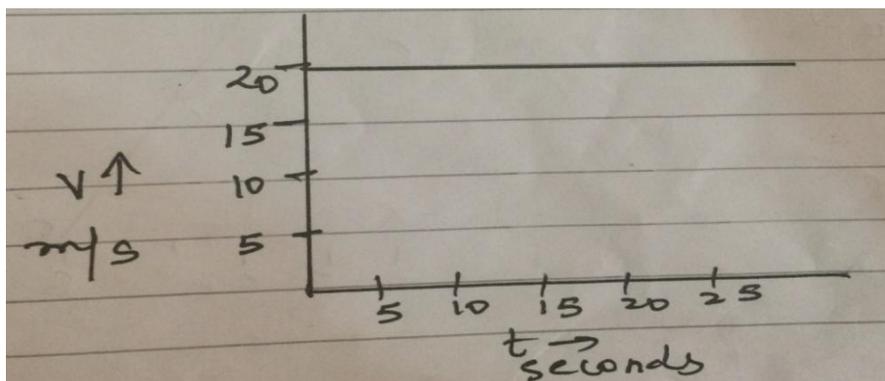
Using the formulae and equations solve the following numericals.

1. A 150m long train crosses a bridge of length 2520m in 25 seconds. What is its velocity [Ans. 16m/s]
2. For a body starting from rest what will be the displacement in 10 seconds, when it acquires a speed of 9 m/s in 2 seconds. [Ans. 100m]
3. A body moves two rounds in a circle of radius '2R'. What is the distance covered and displacement of the body after completing two rounds?
4. A particle moves three quarters of a circle of radius r. What is the magnitude of displacement?
5. A car starts from rest and attains a velocity of 10 m/s in 40 seconds. The driver applies brakes and slows down the car to 5 m/s in 10 seconds. Find the acceleration of the car in both the cases. [Ans. 0.25 m/s^2 , -0.5 m/s^2]
6. An insect moves along a circular path of radius 10 cm with a constant speed. If it takes 1 minute to move from a point on the path to the diametrically opposite point, find
 - a) The distance covered
 - b) The speed
 - c) The displacement
 - d) The average velocity[Ans. a) 31.4 cm. b) 31.4 cm/min c) 20 cm d) 20 cm/min]
7. A body is moving uniformly with a velocity of 5 m/s. Find graphically the distance travelled by it in 5 second. [Ans. 25m]
8. A car is moving on a straight road with uniform acceleration. The following tables gives the speed of the car at various instant of time.

| | | | | | | |
|-------------|---|----|----|----|----|----|
| Time (s) | 0 | 10 | 20 | 30 | 40 | 50 |
| Speed (m/s) | 5 | 10 | 15 | 20 | 25 | 30 |

Draw the speed time graph choosing a convenient scale. Determine a) Acceleration of the car b) Distance travelled by car in 50 seconds. [a) Ans. 0.5 m/s^2 b) 8.75 m]

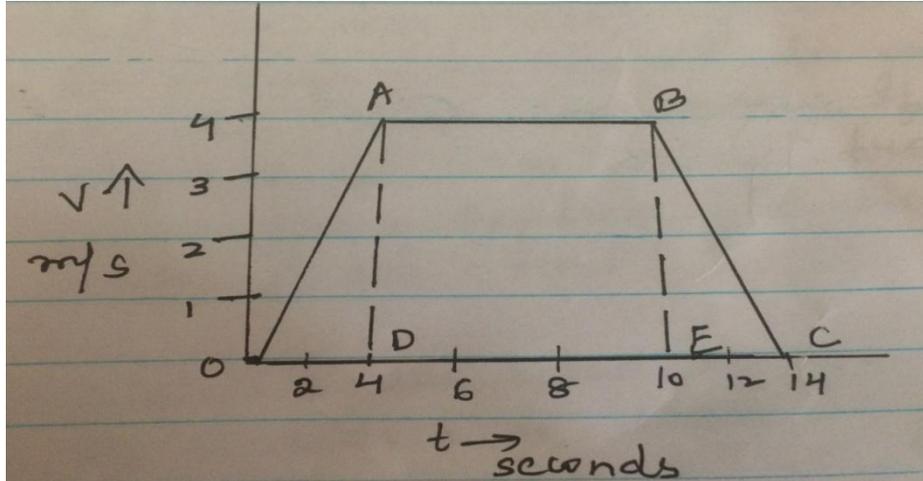
9. A body is accelerating at a constant rate of 10 m/s^2 . If the body starts from rest, how much distance will it cover in 2 seconds. [Ans. $S = 20 \text{ m}$]
10. A car acquires a velocity of 72 km/h in 10 seconds starting from rest. Find a) The accn b) Average velocity c) Distance travelled. [Ans. 2 m/s, b) 10 m/s, c) $s = 100 \text{ m}$]
11. The brakes applied to a car produces an acceleration of 6 m/s^2 in the opposite direction to the motion. If the car takes 2 seconds to stop after applying brakes, calculate distance it travels during this time. [Ans. 12 m]
12. A train travels the first 30 km of 120 km track with a uniform speed of 30 km/h. What would be the speed of the train to cover the remaining distance of the track so that its average speed is 60 km/h for the entire trip? [Ans. 90 km/h]
13. Velocity time graph given shows the motion of a cyclist. Find a) Its acceleration b) Velocity c) Distance covered in 15 seconds.
[Ans. a) 0 b) 20 m/s c) 300 m]



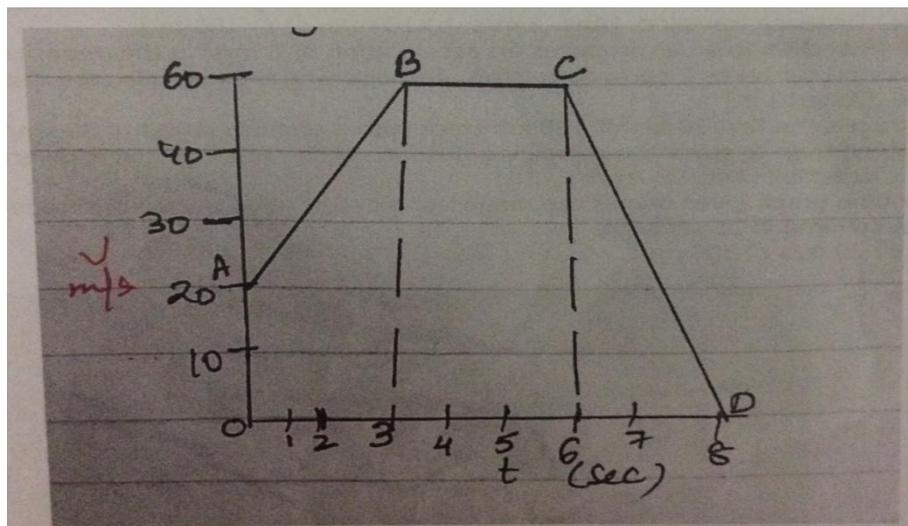
14. A child drops a ball from a height of 10 m. Assume its velocity increases at the rate of 10 m/s^2 . Find
 a) Velocity with which the ball strikes the ground b) Time taken by the ball to reach the ground.
 [Ans. a) 14.14 m/s B) 1.414 sec]

15. Velocity time graph for motion of body is shown below:

- a) Which part of the graph shows accelerated motion? Also calculate the accn. B) Which part of the graph shows retarded motion? Also calculate retardation c) Calculate the distance travelled by the body in first 4 seconds of the journey.



16. The following is v-t graph for a moving body.



- Find a) Velocity with which the motion started? b) Velocity of body at point C c) Acc acting on the body between A and B d) Accn acting on the body between B and C.

17. A train is moving with an initial velocity of 30 m/s . The brakes are applied so as to produce a retardation of 1.5 m/s^2 . Calculate the time in which it will come to rest. [Ans. 20 seconds]
 18. The driver of a car travelling at 36 km/h applies the brakes to deaccelerate uniformly. The car stops in 10 seconds. Plot the speed-time graph for this period. Find the distance travelled by the car during this period by calculating the area under the graph. [Ans. 20m]
 19. A train is travelling with a velocity of 72 km/h . The brakes are applied to retard the motion of the train uniformly. If the train is stopped after 50 m away from the place where brakes were applied. Find the retardation of the train. [Ans. -4 m/s^2]
 20. Calculate the speed of the tip of second's hand of a watch of length 1.5 cm. [Ans. 0.16 cm/s]
 21. A cyclist goes once round on a circular track of diameter 105 m in 5 minute. Calculate his speed. [v= 1.1 m/s]
 22. Do all numerical from Lakhmir Singh (Motion Chapter)

Physics allowed us to build Machines that harness forces & energy to do work. A machine is a device that carries out a task by changing forces in same way.

Q 23. What are Simple Machines? Draw & Explain the working of any 5 simple machines. Write their uses in daily life.

Grade IX – Home Science

1. Educate your neighboring households on the importance of waste segregation through pamphlets / posters. Also create a feedback form and get it filled by your neighbours.
2. Prepare a collage on highlighting the role of each family member in your house and your relationship with them.
3. Write a detailed description of yourself (A4 size sheets)in terms of :
 - a. your behaviour
 - b. your habits
 - c. your attitude
 - d. your beliefs
 - e. your goals
 - f. areas of strengths and weaknesses.

SOCIAL SCIENCE

HISTORY: # The French Revolution (page 24)

The French Revolution saw the rise of newspapers describing the events of each day and week. Collect information and pictures on any one event and write a newspaper article. You could also conduct an imaginary interview with important personages such as Mirabeau, Olympe De Gouges, Robespierre. Work in groups of two or three. Each group could then put up their articles on a board to produce a wallpaper on the French Revolution.

Socialism in Europe and the Russian Revolution (page 48)

Imagine that you are a middle-level wheat farmer in Russia after collectivisation. You have decided to write a letter to Stalin explaining your objections to collectivisation. What would you write about the conditions of your life? What do you think would be Stalin's response to such a farmer?

ECONOMICS

Interview a villager or a farmer and ask some general questions about the village or his occupation. Such as:

- > What is his village's name?
- >What is the location of his village?
- > How many families stay in that village?
- > What are the facilities in that village?
- >What is the main occupation of the people living in that village?
- >What are the non-farming activities or small scale activities, which people do in that village?

And similarly, other general questions can be asked about the village, people, land, and the crops which are grown mainly, non-farm activities, the housing system, the capital used, the factors of production , etc.

MATHEMATICS

1. On an A4 sheet prepare
 - a) The life and workdone by Pythagoras.
 - b) Square root spiral to illustrate the existence of irrational numbers.
2. From: R.S. Aggarwal (to be done in Math register)
 - a) Very Short Answer Questions: Page 65, 66
 - b) Exercise: 3A page 99
3B page 105
3C (1-26) page 114

ENGLISH

1. Make a timeline of the poets featured in the Beehive.
2. Write your 'Statement of Purpose'.
3. Write a review of Wings of Fire
4. Robert Frost - Project

watch the following movies:

1. My Fair Lady
2. Chariots of Fire
3. High School Musical
4. Roman Holiday
5. The King's Speech
6. Candy Jar
7. Back to the Future
8. Chidlren of Heaven
9. Queen of Katwe

READING LIST

| CLASS IX | | |
|----------|---------------------------------|--------------------|
| 1 | MILL ON THE FLOSS | GEORGE ELIOT |
| 2 | NIGHT OF JANUARY 16 | AYN RAND |
| 3 | PRIDE AND PREJUDICE | JANE AUSTIN |
| 4 | JANE EYRE | CHARLOTTE BRONTË |
| 5 | CITY OF DJINNS | WILLIAM DALRYMPLE |
| 6 | FROM HEAVEN LAKE | VIKRAM SETH |
| 7 | WINGS OF FIRE: AN AUTOBIOGRAPHY | A.P.J. ABDUL KALAM |

GERMAN

1. Watch 'Nicas weg' A1 Folge 1 bis 76. Write a synopsis not more than 400 words in English.
2. Learn any german song.
3. Revise all work done in class.

SCIENCE (BIOLOGY)

1. Draw the diagram (fully labelled) of
 - Plant Cell
 - Animal Cell on two separate A-4 sheets.
2. Write the experiments and draw the diagrams from the laboratory manual in the practical files.

CHEMISTRY

1. Write the atomic no., names and symbols of elements from hydrogen to calcium on an A-4 sheet.
2. Write the experiments and draw the diagrams from the laboratory manual in the practical files.

SPANISH

1. Find information about any two Spanish speaking countries. Prepare PPT.
2. Complete the given worksheets of Comprehension, Grammer revision and writing task.

HINDI

- अलंकार परिचय : निम्नलिखित अलंकारों की परिभाषाएँ तथा प्रत्येक के दो-दो उदाहरण A-4 पृष्ठ पर लिखिए -
 1. अनुप्रास
 2. उपमा
 3. रूपक
 4. श्लेष
 5. पुनरुक्ति प्रकाश
- हिन्दी साहित्य के स्वर्ण-युग 'भक्तिकाल' का काल-खंड बताते हुए किन्हीं दस प्रमुख कवियों के नाम, उनकी जन्म व मृत्यु तिथि तथा प्रमुख रचनाओं के नाम A-4 पृष्ठ पर लिखिए । कवियों के चित्र भी चिपकाएँ ।