DELHI PUBLIC SCHOOL, DURGAPUR

QUESTION BANK FOR PERIODIC ASSESSMENT-II (2018-19)

CLASS-VII

SUBJECT: PHYSICS

TOPIC: TIME, MOTION & SPEED

1. The tip of the hour-hand of a watch always takes the same time to cover the same distance. Is its motion uniform or periodic or both? Explain.
2. What is amplitude and time period for a simple pendulum?
3. How is frequency related to time period for a pendulum?
4. What is the difference between vibratory and oscillatory motion?
5. Give example of a non-periodic motion.
6. What is displacement? What is the S.I unit of it?
7. What information do we get from distance-time graphs?
8. What do you mean by mixed motion? Give examples.
9. How can you say that motion and rest are relative?
10. Define Speed, distance. How are they related to each other? Mention the units of both of them.

Numericals:-

1. Convert the followings-
(a) Two days to minutes
(b) 2 years to days.
(c) three weeks to hours
(d) One month to seconds

2. A simple pendulum takes 15 seconds to complete 5 oscillations. What is the time period of the pendulum?
3. If a car is moving with a speed of 5 km/h on a highway find the distance travelled by the car in 3 hours?
4. Sunil covers a distance of 2.4 km from her house to reach her school on a bicycle. If the bicycle has a speed of 2 m/sec, calculate the time taken by her to reach the school
5. A car is moving with speed 72 km/hr. Convert this speed into metre/sec
6. A bus covers a distance from A to B at 50 km/h and while returning it travels at 60 km/h. calculate the average speed.
7. The odometer of a car reads 53321.0 km when the clock shows the time 08:30 AM. What is the distance moved by the car, if at 09:50 AM, the odometer reading has changed to 53426.0 km? Calculate the speed of the car in km/hr during this time.
8. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.
9. A car covers 20 km in the first hour and cover 30 km in the last 4 hours. Find its average speed.
10. Suppose distance between two stations is 300km. While going a train took 3 hours but while returning the same train took 5 hours. Find the average speed of the train.

11. Nidhi takes 10 minutes to go School from her house. If speed of her cycling is 6km/h then find the distance between her house and school.
12. Earth takes 24 hours to complete a rotation. And on average radius of Earth is 6400km. Then what is the speed of rotation of earth?
13. If time taken for single oscillation of a pendulum is 2 sec. What is the frequency of the pendulum?

14. Find out the velocity of the object.

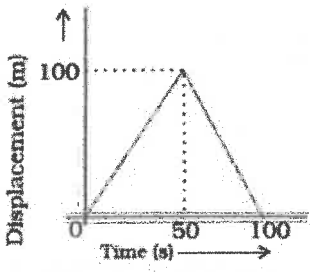
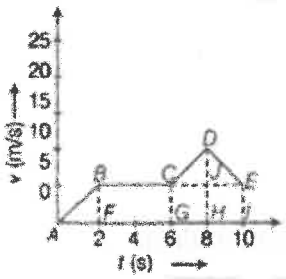


Fig. 8.4

15. Explain the motion of the object from the following graph.



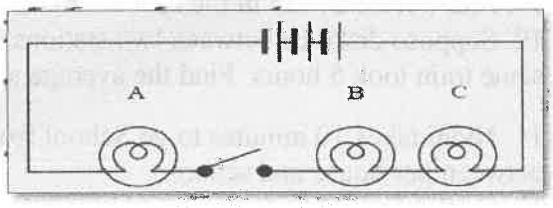
TOPICS-ELCTRIC CURRENT AND ITS EFFECTS

1. How does the magnetic effect of the electric current help in the working of an electric bell?
2. What do you mean by fuse? Explain its use. How does it work?
3. What do you mean by electromagnets? Explain
4. Explain the function of cell in a circuit?
5. State the factors on which amount of heat produced depends?
6. Manav made an electric circuit & placed a magnetic compass near it.
(a) On switching on, the needle of the magnetic compass showed a deflection Why?
(b) On switching off, the needle came back to its normal north-south direction. Why?

7. Name the device which helps in breaking or completing a circuit?
8. An electrician is carrying out some repairs in a building. He wants to replace a fuse by a piece of wire. Would you agree with the electrician? Give reasons for your response.
9. What are the reasons for excessive current flowing through a circuit?
10. What is a miniature circuit breaker?
11. Does every conductor heat up when an electric current is passed through it? What does the amount of heat depend on? Name the conductor normally used in heating appliances.
12. What is en electromagnet? How to increase its strength?

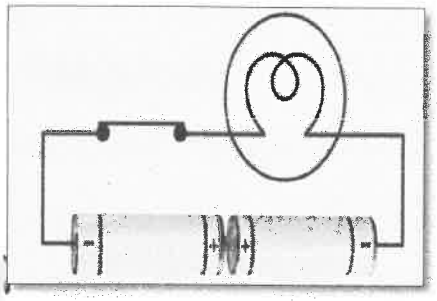
Numericals:-

1. In the circuit shown in the following figure:



a) Would any of the bulb glow when the switch is in the 'OFF' position?
b) What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'ON' position?

2. The bulb in the circuit shown in the following figure does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow.



3. A current of 4 A flows through a 12 V car headlight bulb for 10 minutes. How much electrical energy is consumed during this time?
4. Calculate the electric power of an electrical appliance in which 10 A current is flowing through a resistor of 2 ohms.

TOPIC-HEAT

1. What is clinical thermometer? Explain its construction.
2. State the difference between the laboratory thermometer and clinical thermometer.
3. How are heat and temperature related to each other?
4. What do you mean by thermal equilibrium?
5. Describe sea breeze & land breeze?
6. Describe the different temperature scale and state their relation among them.
7. Mercury is used as thermometric liquid. Explain why?
8. In summer we prefer light-coloured clothes and in winter we usually wear dark-coloured clothes. Why?
9. Discuss why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing?
10. The quantity of heat absorbed or given out by a substance during a thermal change depends on what factors?
11. How does the heat from the sun reach us? Explain briefly.
12. Mention the type of heat transfer in following:
    a. Heating of water
    b. Reaching of Solar energy to earth
    c. Heating of iron rod
    d. Sea breeze in coastal area
    e. Cooking of food in utensils
13. Why does the heat supplied to a substance during its change of state not cause any rise in its temperature?
14. In winter, the weather forecast for a certain day was 'severe frost'. A wise farmer watered his fields the night before to prevent frost damage to his crops. Why did he water his fields?
15. We cannot use Laboratory thermometer to measure our body temperature. Why?
16. Cooking utensils & tea kettles are provided with handles made up of wood & ebonite. Why?
17. The base of cooking utensil is painted black. Why?
18. An iron rod at 30°c is dropped by chance into a bucket containing water at 30°c, the heat will flow or not in this case?
19. Describe with an experiment that solids expand on heating.
20. Discuss why wearing more layers of clothing during winter keeps us warmer than wearing just one thick piece of clothing?
21. Stainless steel pans are usually provided with copper bottoms. Explain why.

SYLLABUS:

1. TIME, MOTION & SPEED (REST & MOTION INCLUDED)

2. ELECTRICITY

3. HEAT

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