

Summer Vacation Task
Class IX
Session 2019-20



ARMY PUBLIC SCHOOL & COLLEGE, DHA-II, WING-II, ISLD

English

Q1. Write a paragraph of about 50-70 words on the following topics:

- The Pleasures of Reading
- Disadvantages of Living in a big city
- Save Trees
- Importance of Games
- Cell phones, television, computers...luxuries or necessities?

Q2. Write an application to the Principal of your school for increasing library facilities.

Q3. Write an application to the Principal of your school for the grant of fee concession.

Q4. Write an application to the Principal of your school asking to avail school transport.

Q5. Write a dialogue between a father and a son about thrift.

Q6. Write a dialogue between two students discussing their hobbies.

Q7. Translation (Urdu to English): 10 sentences from each exercise (Affirmative + Negative + Interrogative)

- Present Continuous Tense (Active Voice) Page 77-80
- Present Perfect Tense (Active Voice) Page 80-83
- Present Perfect Continuous Tense (Active Voice) Page 83-87

Urdu:

جماعت نہم: اسباق (۶ تا) حمد۔ نعت کا تمام کرایا گیا کام اور پانچ سالہ پرچہ جات کا حصہ معروضی کی
دہرائی۔ مضامین تعلیم نسواں۔ طالب علم کے فرائض

Mathematics:

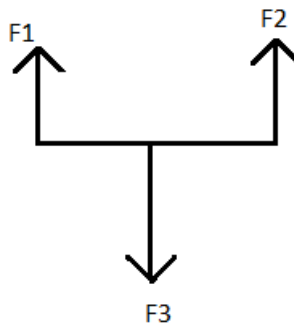
Revision and practice of unit no 3,4 and 10

Physics:

Chapter#4: Turning Effect of Forces

Section-B

1. What is meant by parallel forces?
2. Distinguish between like and unlike parallel forces in the given figure?



3. What do you know about head to tail rule?

4. Define resolution of vectors?
5. In right angled triangle length of base is 4cm and its perpendicular is 3cm. Find:
 - a. Length of hypotenuse
 - b. $\sin\theta$
 - c. $\cos\theta$
 - d. $\tan\theta$
6. A torque of 150N can loosen a nut when applied at the end of spanner of 10cm long.
 - a. What should be the length of the spanner to loosen the same nut with 60N force?
 - b. How much force would be sufficient to loosen it with 6cm long spanner?
7. What do you know about center of mass and center of gravity?
8. What is the Centre of gravity of symmetrical objects?
9. What is meant by principle of moments?
10. Can a small child play with a fat child on the see-saw? Explain how?
11. Two children are sitting on the see-saw, such that they cannot swing. What is the torque in this situation?
12. How stability of body is related with the position of center of mass?
13. How axis of rotation is different from point of rotation?
14. How can we increase torque by keeping force constant?
15. Define couple and give examples?
16. Is it possible that a body is in equilibrium under action of single force?
17. Can a moving object will be in equilibrium? Explain.
18. Give an example of a case when the resultant force is zero but resultant torque is not zero?
19. Can a body be in equilibrium if it is rotating clockwise under the action of a single force?
20. A ladder leaning at a wall will be in equilibrium. How?
21. Does a ladder leaning at a wall satisfy second condition of equilibrium?
22. Does speed of a ceiling fan go on increasing all the time?
23. Does the fan satisfy second condition for equilibrium when rotating with uniform speed?
24. Why is there need of second condition of equilibrium if a body satisfies first condition for equilibrium?
25. Think of a body which is at rest but not in equilibrium?
26. How do we know whether a body is in a stable or unstable equilibrium due to position of its center of gravity?
27. Define stable equilibrium? Give examples
28. Define unstable equilibrium? Give examples
29. Define Neutral equilibrium? Give examples
30. Differentiate between stable and neutral equilibrium?

Section-C

1. How can anyone find out the force from its perpendicular component?

2. Define equilibrium? Explain the conditions of equilibrium in detail?
3. Define Equilibrium. What are the states of equilibrium? Explain them with the help of Centre of gravity?

Chapter#5: Gravitation

Section-B

1. What is law of gravitation?
2. On what factors force of gravitation depend?
3. How law of gravitation and newton's third law of motion relate to each other?
4. What is the gravitational field strength? What is its direction?
5. Weight and velocity of a body depends on which factor?
6. What is GPS?
7. What are geostationary satellites?
8. What do you know about artificial satellites? Give its examples?
9. What are geostationary orbits?
10. Does an apple attract Earth towards itself?
11. With what force an apple weighing 1N attracts the Earth?
12. Does the weight of an apple increase, decrease or remain constant when taken to the top of a mountain?
13. What effect of height or altitude on the value of 'g'?
14. How far moon is from the sun and in how much days it completes its one revolution around Earth?
15. Why value of g is high at poles and low at equator?
16. Why we cannot notice force of attraction between two objects around us?
17. Prove that at a distance of earth distance ($h=R$) above Earth's surface, the value of g becomes one fourth of its value on the Earth?
18. At what altitude the value of g would become one ninth than on the surface of the Earth?

Section-C

1. State and derive Newton's law of gravitation? Why we feel a significant force of attraction by the Earth but not by other objects present around us?
2. If a satellite of mass 'm' is revolving around Earth in an orbit of radius r_o with orbital velocity v_o , then find a relation $v_o = \sqrt{gR}$
3. Consider a body of mass 'm' is placed at a surface of Earth and the radius of the Earth is 'R', then find the mass of Earth (M_e).

Chemistry:

CHAPTER 4: STRUCTURE OF MOLECULES

Section B

1. What is meant by valence electrons? How many electrons are there in an atom of carbon
2. What does the symbol of the element represent in Lewis electron dot structure

3. Draw the Lewis electron dot and cross structure for nitrogen and oxygen gas
4. Differentiate between the duplet and octet rule with examples
5. What kind of bond exists between the two nonmetallic similar atoms
6. Are triple covalent bonds stronger or weaker than double bond
7. Name three types of chemical bonds
8. State theory of chemical combination
9. Write names of any four ionic compounds
10. Differentiate between ionic and covalent bond
11. Differentiate between polar and non-polar covalent bonds
12. Explain working of epoxy adhesives
13. Draw the crystal structure of sodium chloride
14. What is meant by intermolecular forces
15. Draw the hydrogen bonding pattern in water
16. Draw the crystal structure in CsCl.
17. Draw electron dot and cross structure in CCl_4 and H_2S
18. Recognize a compound as having ionic bond NaCl and NaF
19. Differentiate between the types of covalent bonds
20. Describe formation of cation in case of Mg
21. Give the examples of elements obeying duplet rule
22. Describe the formation of oxygen and nitrogen as anion
23. Differentiate between cation and anion
24. Draw electron cross and dot structure for CS_2 and HCN
25. What is meant by dipole dipole forces and why they are weak forces
26. How ionic compound conduct the electricity
27. Why dams, bridges etc. are coated with epoxy resins
28. Which type of attraction present between ionic bond
29. Draw the hydrogen bonding present in HF molecules
30. Draw electron cross and structure of CH_4 and H_2O

Section C

1. Explain ionic bonding in detail.
2. Explain covalent bonding in detail.
3. Explain the intermolecular forces in detail.
4. Explain of bonding and properties in detail.
5. Why do atoms react?

CHAPTER 5: PHYSICAL STATES OF MATTER

Section B

1. Differentiate between diffusion and effusion.
2. Why do mountaineers carry with them pressure cooker.
4. What is pressure cooker? How does it help in proper cooking of food?

5. Why pressure cooker saves times in kitchen.
6. Why Behavior of a gas is important to understand.
7. Which of the three solid, liquid and gas has the highest and lowest kinetic energy?
8. Which of the following gases would diffuse fastest: Nitrogen, oxygen, hydrogen and helium?
9. Why gases are compressible.
10. Justify that the tyre of an automobile is inflated to a slightly lower pressure in summer than in winter
11. Justify that aerated water bottles are kept cold during summer
12. How do you compare boiling and evaporation
13. How do you compare diffusion of liquid with gases
14. Glass is called super cooled liquid why
15. Briefly describe solids are essentially incompressible, whereas gases are hugely compressible.
16. Briefly describe energy is required to convert a solid into liquid at its melting point.
17. It is easy to compress air as compared to water. Why?
18. Why the gases have no fixed shape and volume.
19. What is meant by intermolecular forces?
20. What is the effect of external pressure on boiling point?
21. Differentiate between melting point and boiling point.
22. Differentiate between the Charles's law and Boyle's law.
23. Write down the postulates of kinetic molecular theory.
24. Describe the relationship between the kinetic energy and temperature.
25. Differentiate between the distillation and sublimation.
26. Differentiate between the pressure and vapor pressure
27. Air molecule is free to move inside their container. Justify.
28. What is the role of ozone in atmosphere?
29. On which variables gas laws depend.
30. Explain the relationship between density, volume and mass.
31. Differentiate between three different states of matter on the basis of mobility.

Section C

1. Discuss the three different types of matter with their properties.
2. Differentiate between the crystalline and amorphous solids.
3. What are allotropes? Explain different allotropes of elements in detail.
4. Explain the effect of external pressure on boiling point.
5. Explain the evaporation in detail.
6. Explain the process of freezing.

Pakistan Studies:

Write quotes regarding Basis of Islamic ideology of Pakistan:

1. Justice and Equality
2. Promotion of Democracy
3. Fraternity and Brotherhood
4. Sir Syed Ahmed statement for Economic Deprivation of Muslims
5. Quaid-e-Azam quote on TNT
6. Presidential address of Quaid-e-Azam 1940
7. Allama Iqbal address at Allahabad 1930
8. Islam as a complete system by Allama Iqbal
9. Basis of Muslim Millat
10. Colour and Creed
11. One Millat
12. Quaid-e-Azam address in 1943
13. Quaid-e-Azam address in 1944
14. Quaid-e-Azam address at Aligarh
15. Quaid-e-Azam address to Government Officers
16. Ideology of Pakistan and Quaid-e-Azam.
17. Quaid-e-Azam address in 1948 to people of Dhaka
18. Quaid-e-Azam address on 1st July 1948 State Bank inauguration

Computers:

Section B

- i. Differentiate between save and save as command?
- ii. Why Windows defender is an important aspect of new technology operating systems?
- iii. Write down the drawbacks of third generation of computers?
- iv. In which cases optical fiber is better than coaxial cable?
- v. Write a note on GUI operating System?
- vi. Differentiate between ISDN and CDMA
- vii. What do you know about functions of an operating system?

Section C

- viii. Write down the common methodologies used for authentication?
- ix. How Mesh Topology is better than Bus and Ring Topologies? Justify your answer.
- x. What do you know about CLI? Give Example of a multiuser CLI Operating system?

Biology:

Chapter #6 (Enzymes)

Section B

1. Describe the difference between unicellular organization and multicellular organization.
2. Draw a linkage chart connecting different organs with the relative organ systems.
3. What is biotechnology and describe its applications
4. Describe structure and function of cell wall.
5. Describe factors which effect the enzymes action.
6. What are enzymes? Give different examples
7. How enzymes are specific?

Section C

1. Write characteristics of enzymes.
2. Describe mechanism of enzymes action.
3. What is activation energy? How enzymes lowered the activation energy?

Chapter #7: Bioenergetics

Section B

1. What is photosystem?
2. What is ATP?
3. Differentiate between light and dark reactions.
4. Describe the mechanism of photosynthesis.
5. What are oxidation–reduction reactions? Explain them in detail with examples

Science and Technology

1. List uses of enzymes in different industries.

Islamiyat:

جماعت نهم: سورہ الانفال آیات (۶۹ تا ۷۱) الکلمات والترکیب لکھنے ہیں اور ترجمہ یاد کرنا ہے
- پانچ سالہ پر چہ جات حصہ معروضی یاد کرنا ہے۔

Note: Kindly do your summer task on loose sheets.