

BIOLOGY Class IX (July)

WORK SHEET (Ch-5 Fundamental Unit of Life)

Name - _____ Class/sec _____ Roll No. _____

Q1 – Choose the correct answer.

1. The main constituent of the cell wall is –
(a) Cellulose (b) Lipids (c) Proteins (d) RNA
2. Endoplasmic Reticulum is responsible for
(a) Formation of chromosome
(b) Serves channels for transport of proteins from one part to another part of cell
(c) Formation of skeletal framework of the cell
(d) Both (b) and (c) functions
3. The organelle most closely associated with the manufacture of proteins within the cell is –
(a) Ribosomes (b) Lysosomes (c) Nucleolus (d) Cell wall
4. Chromosomes are made up of -
(a) DNA (b) Proteins (c) DNA and Proteins (d) RNA
5. The cell organelle involved in forming complex sugars from simple sugars are –
(a) Ribosomes (b) Plastids (c) Golgi Apparatus (d) Endoplasmic Reticulum
6. Organelle other than nucleus, containing DNA is –
(a) Lysosomes (b) Endoplasmic Reticulum (c) Golgi Apparatus (d) Mitochondria
7. Organelle responsible for oxidation of food to release energy -
(a) Nucleus (b) Mitochondria (c) Golgi Apparatus (d) Endoplasmic Reticulum
8. Lipid molecules in the cell are synthesized by –
(a) Smooth Endoplasmic Reticulum (b) Rough Endoplasmic Reticulum (c) Golgi Apparatus (d) Plastids
9. The cell organelle which has membrane bound sac filled with powerful digestive enzymes -
(a) Endoplasmic Reticulum (b) Lysosomes (c) Mitochondria (d) Plastids
10. The cell organelle which is responsible for cell division –
(a) Endoplasmic Reticulum (b) Lysosomes (c) Nucleus (d) Plastids

Q2 Give the functions of the following cell organelles –

1. Nucleolus :- _____

2. Cell wall :- _____

3. Golgi bodies :- _____

4. Lysosomes :- _____

5. Vacuoles :- _____

CHEMISTRY Class IX (July)

WORK SHEET (Ch-1 Matter in our surroundings)

Name - _____ Class/sec _____ Roll No. _____

A-Fill in the blanks:-

1. Matter is made up of small _____.
2. The forces of attraction between the particles are _____ in solids, _____ in liquids and _____ in gases.
3. _____ is the change of gaseous state directly to solid state without going through liquid state, and vice-versa.
4. Evaporation causes _____.
5. Latent heat of fusion is the amount of heat energy required to change 1 kg of solid into liquid at its _____.
6. The smell of perfume gradually spreads across a room due to _____.
7. Rapid evaporation depends on the _____ area exposed to atmosphere.
8. As the temperature of a gas decreases, Its volume _____.
9. Gas molecules at higher temperatures have more _____ than at cooler temperatures.
10. Forces of attraction in liquids are _____ than in solid.

B-True/ False:-

1. Boiling is a bulk phenomenon. _____
2. Evaporation is a surface phenomenon. _____
3. The rate of evaporation depends only on the surface area exposed to the atmosphere. _____
4. Latent heat of vaporization is the heat energy required to change 1 kg. of a liquid to gas at atmospheric pressure at its melting point. _____
5. Water at room temperature is a liquid. _____
6. Atoms in a liquid are farther apart than the atoms in a gas. _____
7. The molecules in a gas are in constant motion. _____
8. Gases present in air have the same pressure throughout the entire atmosphere. _____
9. All materials move from solid to liquid to gas as the temperature increases. _____
10. It is just as easy to compress a liquid, as it is to compress a gas. _____
11. Evaporation and boiling are the same processes because molecules move from a liquid to gaseous state. _____
12. A system that changes from a solid state to a liquid state gains energy. _____

C- Convert the following Kelvin temperature to degrees Celsius.

- a. 173 K ->
- b. 273 K ->
- c. 400 K ->

D- Convert the following Celsius temperature to Kelvin temperature.

- a. -73 ° C ->
- b. -23 ° C ->
- c. 100 ° C ->

Class IX
English assignment for July

1. Imagine that you have taken the interview of your favourite musician, Write down the interview on an A4 size sheet. Paste or draw the picture of the musician. Take help from 'The Sound of Music' Part I and II.
(At least five questions with answers)
2. The poem, 'The Rain on the Roof', is about the poet's feelings on a rainy day. Keeping the poem in mind, narrate an experience you had during a rainy season. Record your speech and send it on WhatsApp. Use proper voice modulation and expressions to make it interesting.(Speaking activity)

Class IX - Information Technology (402)

Art Integration Activity - Based on online Tutorial Sessions/Classroom Sessions

Portfolio Activity 2

UNIT 3 -Part A Information and Communication Technology Skills-I

Do any one of the following in class as practical and other two as weekly assignment:-

- 1. Be safe online [safe surfing]- Use any free online application or MS Office application or google apps to make a backdrop as banner/ poster to list any five preventive measures to be taken while working online.**
- 2. Write a welcome message for the guest of honour for your event, use google translate to convert the message to any foreign language and share the screen shot.**
- 3. Create a photo collage of real time coronavirus warriors. For this any photo editing application can be used.**

CLASS-IX

MATHEMATICS

Assignment for July 2021

Instruction- Complete the activity on A-4 sized sheets and solve the practice worksheet in your classwork register.

1. Subject Enrichment Activity - Obtaining mirror image of any geometrical figure with respect to X-axis and Y-axis in Cartesian plane.

2. PRACTICE WORKSHEET- Solve the questions given in the following worksheet.

WORKSHEET OF POLYNOMIALS (CHAPTER-2)

- Find the zero(es) of each of the following polynomials:
 (i) $p(x) = 2x$ (ii) $p(y) = 3 - 6y$ (iii) $p(a) = (a - 2)^2 - (a + 2)^2$
- If 1 and -1 are zeroes of the polynomial $p(x) = ax^3 + x^2 - 2x + b$, find the values of a and b .
- If $p(x) = 3 - 4x + x^2$, find the value of $p\left(\frac{1}{2}\right) + p(2) - p(-1)$.
- Find the remainder when $5x^3 - x^2 + 6x - 2$ is divided by $1 - 5x$. [CBSE SP 2010]
- If the polynomials $3x^3 + ax^2 + 3x + 5$ and $4x^3 + x^2 - 2x + a$ leave the same remainder when divided by $(x - 2)$ then find the value of a . Also find the remainder in each case. [CBSE SP 2010]
- The polynomials $p(x) = x^4 - 2x^3 + 3x^2 - bx + a$ when divided by $x + 1$ and $x - 1$ leaves the remainders 19 and 5 respectively. Find the values of a and b .
- Let R_1 and R_2 be the remainders when polynomials $f(x) = 4x^3 + 3x^2 - 12ax - 5$ and $g(x) = 2x^3 + ax^2 - 6x + 2$ are divided by $(x - 1)$ and $(x + 2)$ respectively. If $3R_1 + R_2 + 28 = 0$, find the value of a . [CBSE SP 2011]
- Find the value of k if $(x - 3)$ is a factor of $k^2x^2 - kx - 2$.
- If $(x + 2)$ and $(x - 2)$ are factors of the polynomial $p(x) = ax^4 + 2x^3 - 3x^2 + bx - 4$, then find the values of a and b .
- What must be subtracted from $p(x) = 4x^3 + 16x^2 - x + 5$ to obtain a polynomial which is exactly divisible by $x + 5$? [CBSE 2010]
- Without actual division show that $p(x) = 2x^4 - 6x^3 + 3x^2 + 3x - 2$ is exactly divisible by $x^2 - 3x + 2$.
- Using identities find the product of each of the following:
 (i) $(x + 3)(x + 3)$ (ii) $(2 + 5x)(2 - 5x)$
 (iii) $(x - 9)(x - 2)$ (iv) $(x - 1)(x + 1)(x^2 + 1)(x^4 + 1)(x^8 + 1)$
- Evaluate each of the following using identity:
 (i) $(102)^2$ (ii) $(0.97)^2$
- Find the following products:
 (i) $(2a - b + 3c)(4a^2 + b^2 + 9c^2 + 2ab + 3bc - 6ca)$
 (ii) $\left(\frac{a}{2} + 2\right)\left(\frac{a^2}{4} - ab + 4b\right)$
- Expand the following:
 (i) $(a - 2b - 3c)^2$ (ii) $\left(4 - \frac{1}{3}\right)^3$
- Factorise:
 (i) $(x^2 + 4x)^2 + 4x^2 - 2x^2y + 16x - 8xy$ [CBSE SP 2010] (ii) $x^2 + 5x + \frac{25}{4}$ [CBSE SP 2010]
 (iii) $x^2 + y^2 + 2(xy + xz + yz)$ [CBSE SP 2011] (iv) $4a^2 - 4b^2 + 4a + 1$ [CBSE SP 2010]
 (v) $3x^3y - 243xy^3$ [CBSE SP 2011] (vi) $x^2 + 19x - 150$ [CBSE SP 2011]

(vii) $x^2 + 6\sqrt{6}x + 48$

[CBSE SP 2011] (viii) $(2a + 3b)^3 - (2a - 3b)^3$

[CBSE SP 2010]

(ix) $8a^3 + 27b^3 + 64c^3 - 72abc$

(x) $(x - a)^3 + (x - b)^3 + (x - c)^3$ where $x = \frac{a+b+c}{3}$

17. (i) If $x^2 + \frac{1}{x^2} = 14$, find $x^3 + \frac{1}{x^3}$.

(ii) If $a + b + c = 1$, $ab + bc + ca = -1$ and $abc = -1$, find the value of $a^3 + b^3 + c^3$.

(iii) If $a + b = 8$ and $ab = 6$, find the value of $a^3 + b^3$.

(iv) If $x = 2y + 6$, find the value of $x^3 - 8y^3 - 36xy - 216$.

(v) If $x + y = 12$ and $xy = 27$, evaluate $x^3 + y^3$.

(vi) If $x + y + z = 5$ and $xy + yz + zx = 10$, evaluate $x^3 + y^3 + z^3 - 3xyz$.

18. Without actually calculating cubes, find the value of $5^3 - 16^3 + 11^3$.

19. Using factor theorem, factorise the polynomial $a^3 - 2a^2 - 5a + 6$.

20. Prove that $(a + b)^3 + (b + c)^3 + (c + a)^3 - 3(a + b)(b + c)(c + a) = 2(a^3 + b^3 + c^3 - 3abc)$.

Class-IX - Physics (July)

Work Sheet - Ch-8 (Motion)

Revise chapter -8 Motion and solve the following problems. Use A4 size sheets.

1. A particle is moving in a circle of diameter 20 m. What is its distance and as per the table given below

| S.no | Rounds | Displacement | Distance |
|------|--------|--------------|----------|
| 1 | 1 | | |
| 2 | 1.5 | | |
| 3 | 2 | | |
| 4 | 2.5 | | |

2. Match the column

| Column A | Column B |
|--|------------------|
| The Slope of the speed-time graph is called | Average Velocity |
| The arithmetic mean of initial and final velocity | speed |
| What quantity is obtained by the area under speed time graph | acceleration |
| The slope of the distance time graph | distance |

3. A particle is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration?

4. A particle was at rest from 1 a.m. It moved at a uniform speed 50km/hr from 1.30 a.m. to 2:00 a.m. Find the average speed between

- (a) 1.00 a.m. and 2.00 a.m.
- (b) 1.15 a.m. and 2.00 a.m.
- (c) 1.30 a.m. and 2.00 a.m.

5. An object moves along a circular path of diameter 14cm with constant speed. If it takes 2 min . to move from a point on the path to the diametrically opposite point . Find

- (a) The distance covered by the object
- (b) The speed
- (c) The displacement
- (d) average velocity.

6. A Truck covers 30km at a uniform speed of 30km/hr. what should be its speed for the next 90km if the average speed for the entire journey is 60km/h?

7. A particle moving with an initial velocity of 5m/s is subjected to a uniform acceleration of 2.5m/s^2 . Find the displacement in the next 4 sec.?

8. A particle is pushed along a horizontal surface in such a way that it starts with a velocity of 12m/s. Its velocity decreases at a uniform rate of 0.5m/s^2 .

- (a) Find the time it will take to come to rest.
- (b) Find the distance covered by it before coming to rest?

9. An air-plane accelerates down a runway at 3.20 m/s^2 for 32.8 s until it finally lifts off the ground. Determine the distance travelled before take off.

10., A ball is thrown upwards and it goes to the height 100 m and comes down

1) What is the net displacement?

2) What is the net distance?

CLASS 9
JULY ASSIGNMENT
SOCIAL SCIENCE

- The French Revolution spanned over ten years. There are many key moments that changed its direction over this period. Prepare a timeline of pivotal moments in the revolution and draw pictures to reflect each entry on the timeline. Do this activity on A4 size sheet.
- On the outline map of India, locate and label the major physiographic division of India. Paste the map in Geography register.

कक्षा - नौवीं

परियोजना कार्य

सामान्य निर्देश : * परियोजना कार्य A 4 SIZE पेपर पर ही कीजिए ।

- सुंदर लेख एवं स्वच्छता का ध्यान रखिए ।
- प्रथम पृष्ठ पर सभी विद्यार्थी अपना परिचय दीजिए ।

(1) विलुप्त होते पशु अथवा पक्षी का चित्र सहित संक्षिप्त वर्णन कीजिए ।

(2) कबीरदास जी का चित्र बनाइए एवं उनके पाँच दोहे लिखिए ।

(3) निम्नलिखित समस्तपदों का विग्रह कर समास का नाम लिखिए ।

(क) देव - दानव

(ख) बसअड्डा

(ग) स्नानघर

(घ) गुणदोष

(ङ) राष्ट्रपति

(च) महादेव

(छ) अल्पाहारी

(ज) राजीवनयन

(झ) भयातुर

(ट) अश्वारोही ।