GOLAYA PROGRESSIVE PUBLIC SCHOOL, PALWAL
HOLIDAY HOMEWORK OF CLASS IX (SESSION: 2017-18)

ENGLISH

1. Read the Novel 'Three Men In A Boat' for the group discussion on the following sub – topics.
   Lesson - 1 Which is dangerous –simple fear or psychological fear
   Lesson – 2 Is work more important than a pleasure trip?
   Lesson – 3 Who opted for camping out during the river trip and why?
           What are similarities between Harris and Uncle Podger.
   Lesson – 4 What is wrong with carrying cheese by narrator's friend?
2. Make PPt on the topic 'Environment and How It Gets Polluted (MCB Unit – 3)
3. Write 25 proverbs with their meanings in English notebook.
4. Practice comprehension exercises from any reference books or from CBSE sample papers
   (www. myCBSEguide.com)

हिंदी

1. मौलिक रचनात्मक अभिव्यक्ति
   अ. ग्रीष्मावकाश में अपनी दिनचर्या का वर्णन करो ।
   ब. स्वाध्याय की आदत हेतु रूचि अनुरूप कोई दो शिक्षाप्रद कहानियाँ पढ़े व अपने शब्दों में समीक्षा भी लिखें ।
2. पत्र रचना (व्याकरण की लेखन पुस्तिका में लिखें)
   अ. अपनी कविता प्रकाशित करवाने हेतु किसी समाचार पत्र के सम्पादक को पत्र लिखिए ।
   ब. अपने मित्र को भारत भ्रमण हेतु आमन्त्रण देते हुए पत्र लिखिए ।
3. निबंध रचना (व्याकरण की लेखन पुस्तिका में लिखें)
   अ. मोबाइल वरदान या अभिशाप
   ब. विज्ञापन के लाभ व हानियां
4. कबीर जी के शिक्षा प्रद दोहों का सचित्र संचय करे व कंठस्थ कीजिये ।
5. बहुव्रीहि समास व कर्मधारय समास या बहुव्रीहि समास व द्विगु समास को चार्ट पर सचित्र उदाहरण अंतर स्पष्ट करते हुए दर्शायें ।
6. किन्ही चार अलंकारो पर आधारित सचित्र काव्य पंक्ति (A4) शीट पर लिखिए ।

MATHEMATICS

Solve the questions given below in the Maths practice notebook

1. **Chapter 1 (Number system)**
   i) Represent the irrational numbers $\sqrt{2}, \sqrt{3}, \sqrt{5}, \sqrt{7}, \sqrt{9.3}, \sqrt{10.5}$, on number line.
   ii) Simplify each of the following by rationalising the denominator:
      (a) $\frac{5+\sqrt{6}}{5-\sqrt{6}}$ (b) $\frac{2\sqrt{3}-\sqrt{5}}{2\sqrt{2}+3\sqrt{3}}$ (c) $\frac{\sqrt{5}-2}{\sqrt{5}+2} - \frac{\sqrt{5}+2}{\sqrt{5}-2}$
   iii) Represent the following non terminating repeating decimals as a p/q form
      (a) $0.\overline{32}$ (b) $0.\overline{001}$ (c) $1.2\overline{7}$ (d) $0.5\overline{3}$

2. **Chapter 2 (Polynomials)**
   i) Using remainder theorem find the remainder of the following when polynomial p(x) is divided by g(x)
      P(x) = x^4 - $3x^2$ + 4 , g(x) = x – 2
      P(x) = x^3 - $6x^2$ + $2x$ − 4 , g(x) = 1 – 2x
      P(x) = $4x^3$ - $12x^2$ + 14x − 3 , g(x) = x - $\frac{1}{2}$
      P(x) = $2x^4$ - $6x^3$ + $2x^2$ − x + 2 , g(x) = x + 2
   ii) Using factor theorem, find all the factors of the given polynomial.

(a) $x^3 + 6x^2 + 11x + 6$

(b) $3x^3 - x^2 - 3x + 1$

(c) $2y^3 - 5y^2 - 19y + 42$

(d) $x^3 - 10x^2 - 53x - 42$

(e) $2x^3 + x^2 - 7x - 6$

3. **Chapter 4 (Linear equation)**

   i) Write four solutions of the following equations.

   a) $3x + 4y = 7$

   b) $2x + 3y = 24$

   c) $-4x + 3y = 12$

   d) $5x - 2y = 10$

   ii) Draw the graph of the following linear equations.

   a) $2x + y = 6$

   b) $X - y = 1$

   c) $2x + y = 8$
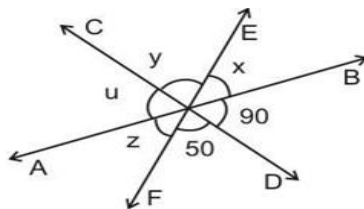
   d) $3x + 5y = 15$

4. **Chapter 6 (Lines and angles)**

   i) In Fig. two straight lines PQ and RS intersect each other at O. If $\angle$ POT = 75°, find the values of a, b and c.
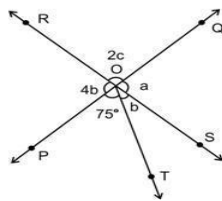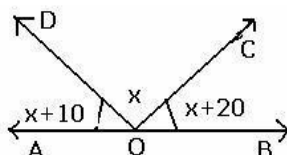

   ii) In the given figure, OA and OB are the opposite rays and $\angle$ AOC + $\angle$ BOD = 90°. Find $\angle$ COD.
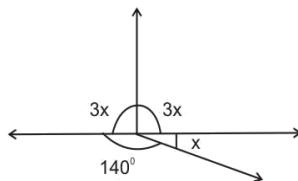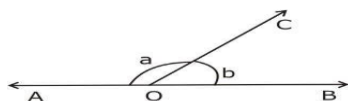

   iii) Three lines intersect at a point „o", forming angles as shown in the figure. Find the value of x, y, z and u.

   iv) In the given figure, find the value of x

v) In the given figure if a – 2b = 30, find the value of a and b. Also given that $\angle$ AOC and $\angle$ BOC form a linear pair

Note: Do chapter 1, 2, 3, 4, 5, 6 from Mathematics exemplar problems.

SCIENCE

1. Define matter state. Name the three states of matter.
2. Name the constituent particles of matter.
3. What are the characteristics of the particles of matter?
4. Light and sound are not considered to be matter. Why?
5. Why boiling is a bulk phenomenon?
6. Explain why evaporation causes cooling.
7. a) What is interconversion of matter?
   b) State the factors on which interconversion of matter can be carried out?
8. Account for the following:
   a) Evaporation is a surface phenomenon.
   b) The spaces between constituent particles is maximum in the gaseous state.
9. Convert the following temperature from ^{o}C to Kelvin (K).
   | $0\,^{o}C$ | $100\,^{o}C$ | $173\,^{o}C$ | $250\,^{o}C$ |
10. Convert the following temperature from kelvin to degree Celsius (^{o}C).
    | 273 k | 100 k | 471 k | 293 k |

11. To make a saturated solution, 36 g of sodium chloride is dissolved in 100 g of water at 293 K. Find its concentration at this temperature.
12. Calculate the mass of sodium sulphate required to preapare its 20% (mass per cent) solution in 100 g of water?
13. Classify each of the following as a physical or a chemical change. Give reason.
    a) Drying of a shirt in the sun.
    b) Change in the color of black tea on adding lemon juice to it.
    c) Churning of milk cream to get butter.
    d) Burning of kerosene in a lantern.
14. What is the principle used for the separation of immiscible liquids?
15. Differentiate between a true solution, sol and a suspension on the basis of:
    Particle size   Filterability   Stability and   Homogeneity
16. Calculate the molecular masses of the following compounds:
    (i) $Pb(NO_3)_2$ (ii) $C_{12}H_{22}O_{11}$
    (iii) $CuSO_4.5H_2O$ (iv) $CH_3CH_2CH_2COOH$

17. XCl_2 is the chloride of a metal X. State the formula of the sulphate and hydroxide of the metal X.
18. Calculate the no. of moles in :
    a) 9.0 grams of aluminum
    b) 392 grams of sulphuric acid.
    c) 3.2 grams of Sulphur.

19. What mass of calcium contains the same number of atoms as are present in 3.2 g of Sulphur?

20. Calculate the mass of oxygen gas which contains the same number of molecules as 8 grams of SO_2 gas.

21. An atom of an element 'X' contains 29 electrons and 35 neutrons. Deduce (i) its atomic number and (ii) its mass number. How will you represent the element 'X'.

22. If Z = 5, What would be the valency of the element ? Also, name the element.

23. Write the chemical names of the following compounds :

(a) K_2SO_4 (b) $Mg_3(PO_4)_2$ (c) NH_4Cl

(d)   ZnS   (e) Na_3N (f)   AgBr

24. Name two elements which have isotopes. Write the symbols of their isotopes and provide an account of the subatomic particles present in each of these isotopes.

25. Observe the following reactions occurring with the different masses of A, B, C and D.

	A	+	B	→	C	+	D
i)	1.0 g		2.5 g		1.5 g		W
ii)	X		5.0 g		3.0 g		4.0 g
iii)	1.5 g		3.8 g		Y		3.0 g
iv)	2.0 g		Z		2.5 g		2.5 g

By applying law of conservation of mass, the correct values of W, X, Y and Z are given in :

	W/(i)	X/(ii)	Y/(iii)	Z/(iv)
a)	2.0 g	3.0 g	2.0 g	2.3 g
b)	2.0 g	2.0 g	2.3 g	3.0 g
c)	2.0 g	2.3 g	2.0 g	3.0 g
d)	3.0 g	2.0 g	3.0 g	2.3 g

26. a)   An ion M^{2+} contains 10 electrons and 12 neutrons. What is the atomic number and mass number of the element M ?

b)   Is it possible in an atom to have 12 protons and 13 electrons ? Explain.

c)   Why helium gas is inert ?

27. In a chemical reaction the mass of the products is 56 g. If the mass of one of the reactants is 26 g, then according to the law of conservation of mass, the mass of the other reactant will be :

(a) 26 g   (b) 36 g   (c) 30 g   (d) 82 g

28. An element X has a valency of 2. Write the chemical formula for

a)   Bromide of the element

b)   Oxide of the element

29. Write the conclusions drawn by Rutherford for the following observations during his α-scattering experiment :

a)   Most of the alpha particles passed straight through the gold foil.

b)   Some alpha particles getting deflected from their path.

c)   Very small fraction of alpha particles getting deflected by 180°

30. The average atomic mass of a sample of an element X is 19.2 u. What are the percentages of isotopes $_8P^{16}$ and $_8P^{18}$ in the sample?

SOCIAL SCIENCE

Q.1 Locate and label the following on the Physical maps of India.

- Northern Most Latitude of India
- Southern Most Latitude of India
- Eastern most Latitude of India

- Western Most Latitude of India
- Standard Meridian of India
- Physical features of India
- Mountain and hill ranges- The Karakoram, the Zaskar, the Patakai Bum, the Jaintia, the Vindhya range, the Aravali, and the Cardamom hills.
- Peaks- K2, Kanchenjunga, Nanga Parbat and Anai Mudi.
- Plateaus- Chotanagpur and Malwa

Q.2 Learn the following Key terms and Key questions and write them in your fair notebook

Key terms:
1. Longitude
2. Latitude
3. Standard Meridian
4. Tropic of Cancer
5. Tropic of Capricorn
6. GMT
7. Tectonic Plates
8. Convergent boundary
9. Divergent boundary
10. Transform boundary
11. Gondwana Land
12. Bhabar
13. Khadar
14. Bhangar
15. Coral
16. Democracy
17. Amendment
18. Apartheid
19. Preamble
20. Constitutional Institutions

Key Questions
1. The central location of India at the head of the Indian Oceans considered of great significance. Why?
2. The sun rises two hours earlier in Arunachal Pradesh as compared to Gujarati the west but the watches show the same time. How does this happen?
3. Describe how the Himalayas were formed.
4. Give an account of the Northern Plains of India.
5. Write few merits and demerits of democracy.
6. What is Constitution? Why is it needed?
7. What are the guiding values of the Indian Constitution?
8. Why should we accept the Constitution of Indian even after sixty years of Independence?
9. What are the various factors of production?
10. How can the production be increased on the same plot of land?

Q.3 **Project Work**

 Prepare a project Report on any one of the Man- made disasters- Nuclear, Biological and Chemical. (The Project Report should be handwritten by the students themselves and comprise of not more than 15 foolscap pages.)