

**THE ASIAN SCHOOL, DEHRADUN**  
**HOLIDAY HOMEWORK -SUMMER VACATION 2017 FOR CLASS XI**

**English: The following questions from the prescribed books have to be attempted in a neat manner in the homework note book.**

- Q1. Grandmother became a lonely figure in the city. How did she adjust and adapt to this loneliness?
- Q2. Show that serenity was the dominant characteristic in the personality of the grandmother.
- Q3. Do you think that Shirley Toulson gradually accepted her mother demise as an inevitable reality? Justice your answer.
- Q4. The dominant mood of the poem 'A Photograph' is of sadness issuing out of the deep sense of loss in poetess heart on her mother's death. Pick out the lines from each stanza that reveal her mood and show the sadness changes through the poem.
- Q5. Write about each figure of speech/ literary devices/ poetic devices with two examples.
- Q6. Write the review of chapter 1-6 of novel 'Up from the Slavery' (Long Reading).

- Hindi:**
1. भारत की सीमाओं पर मंडराता खतरा विषय पर एक फीचर लिखिए।
  2. अवकाश के दिनों में कोई एक उपन्यास पढ़कर उसकी समीक्षा लिखिए।
  3. किसी हिन्दी समाचार पत्र से दो सम्पादकीय लिखिए।
  4. दो अपठित गद्यांश, दो अपठित पद्यांश प्रश्न- उत्तर सहित अपनी कॉपी में लिखिए।
  5. नमक का दरोगा, मिर्चों नसीरुद्दीन, कबीर के प्रश्न-उत्तरों को अपनी गृहकार्य कॉपी में करें।

**Mathematics:**

1. State and Prove : DE MORGAN's law.
  2. Prove that  $(A-B) = (A \cap B')$
  3. Prove that  $P(A \cap B) = P(A) \cap P(B)$ .
  4. In a group of children 45 play football out of which 30 play football only 28 play Hockey, 25 play Cricket, out of which 11 play Cricket only, further, 7 play Cricket and football but not Hockey, 5 play football and Hockey but not Cricket and 10 play Football and Cricket both. Find :
    - a) How many play all the three games?
    - b) How many children play Hockey only?
    - c) How many children are there in the group?
  5. Let A and B be two sets, such that  $n(A) = 15$   $n(B) = 326$  and  $n(A-B) : 47$ . Find  $n(A \cup B)$  and  $(A \cap B)$
  6. Prove if A and B are any two sets :  $(A \cap B) \cup (A-B) = A$
  7. Show that :  $(A \cup B) - (A \cap B) = (A-B) \cup (B-A)$
  8. If  $A = \{8, 11, 14, 17, 20, 23, 26\}$   
 $B = \{9, 13, 17, 21, 25\}$   
 $C = \{7, 9, 11, 13, 15, 17, 19, 21\}$   
 $D = \{10, 15, 20, 25\}$   
 $U = \{1, 2, 3, \dots, 30\}$   
 Find  $A-B, D-C, D-B, (A-C)', (C)'$
  9. Find  $A \Delta B$ , if  
 $A = \{1, 3, 4\}, B = \{2, 5, 9, 11\}$   
 $A = \{1, 3, 6, 11, 12\}, B = \{1, 6\}$
  10. In a committee 50 people speak French, 20 speak Spanish and 10 speak both Spanish and French. How many speak atleast one of these two Languages?
  11. Describe the following sets in Roster form :
    - a)  $A = \{x : x \text{ letter in Alphabet which precedes f}\}$
    - b)  $B = \{x : x \text{ is a the Integer and } x^2 < 40\}$
    - c)  $C = \text{the set of all letters in the word MATHEMATICS.}$
    - d)  $B = \{x : x \text{ is an Integer, } -y_2 < x < 9/2\}$
  12. Write following in set builder form :
    - a)  $A = \{3, 7, 11, 15, \dots\}$
    - b)  $B = \{1/2, 2/3, 3/4, 4/5, 5/6, 6/7\}$
    - c)  $C = \{1, 8, 27, 64, 125, 216\}$
    - d)  $D = \{0, 3, 6, 9, 12\}$
  13. If  $A \times B = \{(a,1) (a,5) (a,2) (b,2) (b,5) (b,1)\}$  find A,B and  $B \times A$ .
  14. Let  $A = \{1,7\}, B = \{1,2,3,4\}$   
 $C = \{5,6\}, D = \{5,6,7,8\}$
- Verify that a)  $A \times (B \cap C) = (A \times B) \cap (A \times C)$       b)  $A \times C$  is a subset of  $B \times D$ .
15. Find x and y, if a)  $(x+2, 4) = (5, 2x+y)$       b)  $(x+3, y-4) = (0, 5)$
  16. Let  $A = \{1, 2, 3, 4\}$  and  $R = \{(a,b) : a \text{ divide } b\}$  write R in Rosteh form.
  17. Express  $\{(x,y) : x^2 + y^2 = 25, x, y \in W\}$  in set of ordered pair.
  18. a) Let  $A = \{1, 2\}, B = \{3, 4\}$ . Find No. of relations from A into B.  
 b) If  $R = \{(x,y), x, y \in W, 2x+y = 8\}$  then write the domain and range of R.
  19. Let  $A = \{1, 2, 3, \dots, 14\}$ . Define a relation R from A to A by  $R = \{(x,y) : 3x-y = 0, xy, \in A\}$ . Depicit this using an arrow diagram. Write Domain and range.
  20. If  $F(n) = x^4 + x^2 - 1$ . Find  $f(x-1)$
  21. If  $y = f(x) = \frac{3x+1}{5x-3}$ , prove that  $f(y) = x$ .
  22. Find Domain and range of the following real fun.  
 a)  $f(x) = \sqrt{x^2 + 5x + 6}$     ii)  $f(x) = \sqrt{9 - x^2}$     iii)  $f(x) = -|x|$     iv)  $f(x) = \frac{3}{2-x^2}$
  23. Let  $A = \{9, 10, 11, 12, 13\}$  and let  $F : A \rightarrow N$  defined by  $f(n) = \text{the highest prime factor of } n$ . Find the range of f.

24. Let  $A = \{-1, 0, 1, 2\}$   
 $B = \{2, 3, 4, 5\}$

Determine which of the following sets are functions from A to B.

- a)  $f_1 = \{(-1, 2), (-1, 3), (0, 4), (2, 5)\}$   
 b)  $f_2 = \{(0, 3), (1, 4), (2, 5)\}$   
 c)  $f_3 = \{(-1, 2), (0, 3), (1, 4), (2, 5)\}$   
 d)  $f_4 = \{(-1, 5), (0, 4), (1, 2), (2, 4)\}$

#### Physics:

- Write answers of all these questions in your homework notebook.

Q1. What was the important discovery of C.V Raman?

Q2. Name two advancements made in technology on the basis of physics.

Q3. Discuss the relation of physics with other sciences.

Q4. The surface tension of water is  $72 \text{ dynecm}^{-1}$ . Express it in SI units.

Q5. An electric bulb has a power of 500W. Express it in c.g.s units.

Q6. If the units of force, energy and velocity are 20N, 200j and 5m/s, find the units of length mass and time.

Q7. Find the dimensions of a/b in the equation

$$F = a\sqrt{x} + bt^2, \text{ where } F \text{ is force } x \text{ is distance and } t \text{ is time.}$$

Q8. Find the dimensions of  $axb$  in the relation.  $P = \frac{b-x^2}{at}$ , where P is power, x is distance and t is time.

Q9. The distance covered by a particle in time t is given by  $x = a + bt + ct^2 + dt^3$ . Find the dimensions of a,b,c,d.

Q10. The velocity 'v' of water waves depends on the wavelength 'd', density of water and the acceleration due to gravity 'g'. Find the relation between these qualities.

Q11. Obtain an expression for the centripetal force F acting on a particle of mass m moving with velocity v in a circle of radius 'r'. Take dimensionless constant K = 1.

Q12. The velocity of a freely falling body is a function of the distance fallen through (h) and gravitational acceleration 'g'. Show by the method of dimensions that  $v = K \sqrt{gh}$

Q13. A body of mass m is moving in a circle of radius 'r' with angular velocity  $\omega$ . Find expression for centripetal force acting on it by the method of dimensions.

Q14. Each side of a cube is measured to 7.203m. What are the total surface area and the volume of the cube to appropriate significant figures.

Q15. The radius of a sphere is 1.41cm. Explain its volume to an appropriate number of significant figures.

Q16. The length and the radius of a cylinder measured with slide calipers are found to be 4.54 cm and 1.75 cm. Calculate the volume of the cylinder.

Q17. 5.74g of a substance occupies  $1.2 \text{ cm}^3$ . Express its density keeping significant figures in view.

Q18. The mass of a body is 275.32 g and its volume is  $36.41 \text{ cm}^3$ . Express its density upto significant figures.

Q19. Two error in the measurement of radius of a sphere is 2%. What would be the error in the volume of the sphere?

Q20 Find the percentage error in Z

$$\text{if } Z = \frac{A^{1/3} B^4}{C D^{2/3}}$$

#### Chemistry :

I) Prepare a report on Environment Threats of Present Time – Local and Global.

II) Write answers of all these questions in your homework notebook.

Q1. If 6.3 g of  $\text{NaHCO}_3$  are added to 15g of  $\text{CH}_3\text{COOH}$  solution the residue is found to weigh 18g. What is the mass of  $\text{CO}_2$  released in the reaction.

Q2. Two oxides of a metal contain 27.6% and 30.0% of oxygen respectively. If the formula of the first oxide is  $\text{M}_2\text{O}_4$ , find that of the second.

Q3. 61.8 g of A combine with 80g of B. 30.9g of A combine with 106.5g of C. B and C combine to form compound  $\text{CB}_2$ . Atomic weights of C and B are respectively 35.5 and 6.6. Show that the law of reciprocal proportions is obeyed.

Q4. Calculate the number of atoms of the constituent elements in 53g of  $\text{Na}_2\text{CO}_3$ ?

Q5. Calculate the mass of (i) 0.1 mole of  $\text{KNO}_3$  (ii)  $1 \times 10^{23}$  molecules of methane (iii)  $112 \text{ cm}^3$  of hydrogen of STP.

Q6. Calculate the volume occupied by  $10^{22}$  molecules of a gas at 300 k and 760 mm pressure.

Q7. Calculate the volume at STP occupied by (i) 14g of Nitrogen (ii) 1.5 moles of carbon dioxide (iii)  $10^{21}$  molecules of oxygen.

Q8. Calculate the molarities and normalities of the solution obtained on mixing.

a) 100 ml of 0.2 N  $\text{H}_2\text{SO}_4$  with 50 ml of 0.1 N HCl.

b) 100 ml of 0.2 M  $\text{H}_2\text{SO}_4$  with 50 ml of 0.1 N HCl.

Q9. A solution of oxalic acid  $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$  is prepared by dissolving 0.63g of the acid in  $250 \text{ cm}^3$  of the solution. Calculate (a) molarity (b) normality of the solution.

Q10. Calculate the number of oxalic acid molecules in 100 ml of 0.02N oxalic acid solution.

Q11. Calculate the molarity of water if its density is  $1000 \text{ kg/m}^3$ .

Q12.  $\text{Fe}_2(\text{SO}_4)_3$  is used in water and sewage treatment to aid the removal of suspended impurities. Calculate the mass percentage of iron, sulphur and oxygen in this compound.

Q13. A compound containing sodium, sulphur, hydrogen and oxygen gave the following results on analysis

Na = 14.28%, S = 9.92%, H = 6.20%.

Q14. Balance the Skeleton equation by Hit and Trial method.

a)  $\text{Mg}_3\text{N}_2 + \text{H}_2\text{O} \longrightarrow \text{Mg}(\text{OH})_2 + \text{NH}_3$

b) Magnetic oxide when heated with hydrogen is reduced to iron and water is also produced.

Q15. What mass of slaked lime would be required to decompose completely 4 grams of ammonium chloride and what would be the mass of each product.

Q16. What weight of 35% HCl by weight is required to complete reaction with 10l of 0.1M KOH.

Q17. What volume of oxygen at STP is required to affect complete combustion of  $200 \text{ cm}^3$  of acetylene and what would be the volume of carbon dioxide formed.



Q18. 50 kg of Na(g) and 10kg of H<sub>2</sub>(g) are mixed to produce NH<sub>3</sub>(g). Calculate the NH<sub>3</sub>(g) formed. Identify the limiting reagent in the production of NH<sub>3</sub> in this situation?

Q19. The vapour density of a mixture of NO<sub>2</sub> and N<sub>2</sub>O<sub>4</sub> is 38.3 at 26.7<sup>o</sup>c. Calculate the number of moles of NO<sub>2</sub> in 100 g of the mixture.

Q20. 4g carbon were heated with 8g of sulphur. How much CS<sub>2</sub> will be formed when the reaction is complete? What will be its percentage purity.

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**Biology:** Prepare a Herbarium of Fifteen plant specimens of medicinal value from your locality on a standard Herbarium sheet following the criteria for its preparation and preservation.

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**History:** The students should make a project on "MESOPOTAMIA (WRITING AND CITY LIFE)". The project should be consist of the following :

- a) Title Page      b) Acknowledgement      c) Table of Contents      d) Introduction      e) The body of the project should have description of the URBANIZATION AND DEVELOPMENTS OF WRITTEN RECORDS, PICTURES, DATA AND OTHER RELEVANT INFORMATION.  
f) Conclusion should have students observations on the topic      g) Bibliography and References

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**Economics:**

- Make a project report on GST in India and its impact on the Indian Economy. The project should reflect the following through a suitable example :

- a) GST – Meaning and Features  
b) A complete insight of GST in terms of taxation and sustainable development of the Indian Economy.

- **The following questions should be done in the homework notebook.**

Q1. Illustrate the difference between rural and urban poverty. Is it correct to say that poverty has shifted from rural to urban areas? use trends in poverty to support your answer.

Q2. How can creation of income earning assets address the problem of poverty?

Q3. What is MGNREGA? Do you think it will finally address the problem of poverty in India?

Q4. What is meant by "Descending into poverty"?

Q5. Illustrate some of the PAP's and their role in eradication of poverty.

Q6. What is meant by Vocational Education and how does it impact the growth of an economy.

Q7. "Benefits of education always exceed the cost of education." Comment.

Q8. Discuss the need for promoting women's education in India.

Q9. Explain the role of Government Organizations in facilitating the functioning of schools and hospitals in India.

Q10. What is RTE? Explain the benefits which occur to the economy due to the implementation of RTE.

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**Account:**

Q1. Explain all the basic terms of Accounting with suitable examples.

Q2. Clearly bring out the difference between Bookkeeping and Accounting.

Q3. Explain the types of the accounting information and explain the uses of accounting information in details.

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**BST : I)** Make a project report on "Case Study on a Product", the project should be made by following the given guidelines:

- a) Take a product having seasonal growth and regular demand eg : Apples from Kashmir, Pottery of Manipur, Fishes from Coastal areas.  
b) Research for change in price of the product.  
c) Effect on prices in absence of effective transport and warehouse facilities.  
d) Students to find out the importance of producing and selling these products along with the role of transport, warehousing, advertising, banking insurance etc.

**The project should be handwritten and should not exceed 25 pages.**

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**Geography :**

I) Prepare a project on the topic "Earthquake".

**Instructions :** \* Project should not be exceed 10 pages.

\* Project should be hand written.

\* The sequence of the project should be as follows :

i) Acknowledgement      ii) Certificate      iii) index      iv) Content      v) Bibliography

\* Collect the pictures and the information related to the topic from Magazines, Internet, Newspapers etc.

II) Write answers of all the 20 questions provided by the subject teachers in the homework notebook.

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**Physical Education:**

1. Prepare a detailed study on the Sports Awards Conferred by Government of India.

2. Prepare a detailed study on "Postural Deformities" – following points to be covered :

- a) Deformities related to Spine/ Shoulder/ Legs and Foot.  
b) Causes and Remedies of the Postural Deformities.  
c) Corrective Exercises related to the Deformities.

**Note : Use of Photograph and Pictures is must.**

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**Psychology:**

Q1. Do the question answers of Chapter 1

Q2. Visit a Rehabilitation Centre, Special School, Mental Hospital and note down about the working, type of people and experiences you gained while your visit. Prepare a detailed report of 6-7 A4 size pages along with photographs about your visits.

**Computer:**

- Q1: Explain different Generation of computers  
Q2: define the terms a) software b) firmware c) live ware  
Q3: Explain different types of primary memory  
Q4: Write a program in c++ in order to  
a) To calculate simple interest  
b) Find area of circle  
c) Find greatest of three numbers  
d) Check whether number entered is multiple of 7 and 9  
e) Read two numbers and find whether first number is factor of second or not  
f) Read a number and check whether its last digit is 9 or not  
g) Solve linear equation of motion  
h) Read two numbers and choice if choice is 1 then calculate sum of two numbers otherwise find product of two numbers

**Painting:** \* Make 8 still life in pencil shading. Size – A3 File, use shading pencils 2B,4B and 6B.

**Music (Vocal) :**

- Q1. Sketch the Diagram of Taanpura.  
Q2. Life Sketch of Miya Taansen with view points :  
a) born on and Born in      b) Early Life (Childhood)      c) Musical Education      d) Musical Contribution      e) Death

**Music (Instrumental Tabla) :**

- Q1. a) Teentaal      b) Jhaptaal      c) Roopaktaal      d) Kehrwataal      e) Dadrataal with detailed description.  
Q2. Life Sketch of the following :  
a) Pt. Anokhe Lal Mishra      b) Ustad Ahmadjan Thirakwa      c) ustad Allarakha Khan  
d) Ustad Latif Ahmad Khan      e) Pt. Kishan Maharaj  
Q3. Sketch Diagram of Tabla.



Principal



Vice-Principal