

# INTERNATIONAL PUBLIC SCHOOL BHOPAL

## SUMMER ASSIGNMENT 2017-18

### CLASS-IX

#### ENGLISH

Note: Do the work in your English class work notebook.

Q1. Read the Novel 'Three Men in a Boat'. Answer the following questions.

- A) What is the theme of the novel? (50 words)
- b) What do you like about the author? (50 words)
- c) Mention two incidents that you like the most. (100 words)

Q2. (a) Make a list of 5 things that you would do to help others during your summer vacation.

- b) Paste the picture of those people whom you helped.
- c) Describe in your own words how you helped them.

#### PHYSICS

##### **General Instructions**

1. Perform the activities based on the following topics.
2. Prepare a report on the same .

##### **ACTIVITIES**

Observe and list down the various Physics principles used in the following activities

- (a) Football game                      (b)Cricket                      (c) Circus                      (d)Boat race

#### CHEMISTRY

1. Prepare a comprehensive report on the fourth and fifth state of matter.
2. Depict any one of the process in 3 dimensional model-
  - A. Process of Sublimation
  - B. Diagram showing conversion of ice to water
  - C. Diagram showing conversion of water to water vapour.
3. Convert the following temperature to-
  - A. Celsius scale: 573 K,300 K.
  - B. Kelvin scale: 10° C ,36° C , 373 C.
4. Tabulate the differences in the characteristics of states of matter .

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#### BIOLOGY

1. Make a table to show discoveries related to cell. Mention different scientists, their work (discovery of different cell organelles, year and function of that organelle).
2. Paste colorful pictures of different types of cell and write five characteristic features of each.
3. Answer the following questions:
  - (i) Different colours are seen in different fruits and flowers. Why?
  - (ii) Can a single cell live independently on its own? Explain with example.
  - (iii) Why does plant cell possess large sized vacuoles?
  - (iv) What will happen when dry apricots are left for some in pure water and later transferred to sugar solution?
4. Are there living organisms without cell? If yes, paste their pictures and write a short note on them.

**NOTE:** Holiday Homework to be done in Biology notebook in assignment section.

#### MATHEMATICS

Q1 Write four irrational number between 0.1 and 0.2.

Q2 Express  $\sqrt[4]{1250}$  in its simplest form.

Q3 Express  $\frac{2}{3}\sqrt{18}$  as a pure surd.

Q4 Express  $0.\overline{123}$  as a rational number

Q5 If  $\frac{6}{(3\sqrt{2}-2\sqrt{3})} = (a\sqrt{2} + b\sqrt{3})$ , find the value of  $a$  and  $b$

Q7 Find the smallest of the numbers  $\sqrt[3]{6}$ ,  $\sqrt[6]{24}$  and  $\sqrt[4]{8}$

Q8 Prove that  $\left(\frac{81}{16}\right)^{-3/4} \times \left\{ \left(\frac{25}{9}\right)^{-3/2} \div \left(\frac{5}{2}\right)^{-3} \right\} = 1$

Q9 If  $x = (3 - 2\sqrt{2})$ , show that  $\left(\sqrt{x} - \frac{1}{\sqrt{x}}\right) = \pm 2$

Q10 Represent  $\sqrt{3.2}$  on number line.

Q11 if  $(x + 1)$  and  $(x - 1)$  are factors of  $p(x) = ax^3 + x^2 - 2x + b$ , find the value of  $a$  and  $b$ .

Q12 If  $(x + 2)$  is a factor of  $p(x) = ax^3 + bx^2 + x - 6$  and  $p(x)$  when divided by  $(x - 2)$  leaves a remainder 4, find the value of  $a$  and  $b$

Q13 If  $a + b + c = 5$  and  $ab + bc + ca = 10$ , prove that  $a^3 + b^3 + c^3 - 3abc = -25$

Q14 If  $p(x) = 2x^3 + ax^2 + 3x - 5$  and  $q(x) = x^3 + x^2 - 4x + a$  leave the same remainder when divided by  $(x - 2)$ , show that  $a = \frac{-13}{3}$

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Q15 If  $a + b + c = 0$ , then  $\left(\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab}\right) = ?$

#### Activity:

- 1) Represent  $\sqrt{2}, \sqrt{3}, \sqrt{4}, \sqrt{5}, \sqrt{6}, \sqrt{7}, \sqrt{8}, \sqrt{9}, \sqrt{10}, \sqrt{11}, \sqrt{12}$  on real number line
- 2) Verify identity  $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2ac + 2bc$  through activity

#### SOCIAL SCIENCE

1. Draw a map of India and locate the states and the Union Territories along with their capitals.(Sheet)
2. Mention ten current affairs along with relevant cuttings from newspapers. Out of which, there should be 4 national affairs, 4 international affairs and 2 state affairs. Make it in the form of a newspaper and also give a suitable name to your newspaper.(Newspaper form-handwritten)
3. France attained republican form of government through revolutions. Describe the stories of revolutions through which England and America attained democracy (In file).

#### COMPUTER SCIENCE

Topic Chap 1: Introduction to Internet

Q.1 Create a poster on any five Web Browser.

Poster contains following Topics.

- 1.1) Introduction about web-browser.
- 1.2) Images of web browser
- 1.3) Features of web browser
- 1.4) Poster size is A3 Sheet.

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#### HINDI

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