

# DARSHAN ACADEMY

## HOLIDAY HOMEWORK

2018-19

CLASS IX

ENGLISH

### LITERATURE SECTION

1. Read lessons- Iswaran: the story teller, In the kingdom of fools and The Happy Prince from Supplementary Reader and answer the following questions in 100-120 words:

(a) In what way is Iswaran an asset to Mahendra?

(b) What things were different in the kingdom of fools?

(c) Describe the sufferings of the poor people in the city. How did the Happy Prince help them?

2. Pick up 20 words from above mentioned lessons of supplementary and find their meanings and use them in sentences of your own.

### WRITING SECTION

(b) Write an article for a newspaper in about 120 words on the topic, "It's Girls, Girls, Girls All The Way".

(c) You have passed your grade VIII final examination. Write a short Diary Entry in about 120 words expressing your feelings about your success.

(d) Recently you had a chance to welcome and meet a celebrity. Write a Diary Entry describing your experience during his/her visit to your town/city.

## MATHEMATICS

### SECTION – A

1) Write decimal representation of  $\frac{3}{11}$ .

2) Find value of  $(7^3 \times 5^4)^0$ .

3) Write rationalizing factor of  $\frac{5}{7 + \sqrt{3}}$ .

4) Find the value of  $(\sqrt{3} + 1)(\sqrt{3} - 1)$ .

5) Simplify  $(64)^{-3}$ .

6) Is  $3x^5 - \frac{17}{x} + 4x^2 + 9a$  a polynomial in  $x$ ?

7) Write degree of polynomial  $5x^4 - 3x^7 + 20x$ .

8) Write coefficient of  $x^3$  in  $2x^5 - 5x^3 + 10$ .

9) Write any binomial in  $x$  having degree 15.

10) What is the zero of  $2x - 1$ ?

### SECTION – B

11) Represent  $\sqrt{7.5}$  on the number line.

12) Represent  $\sqrt{6}$  on the number line.

13) Simplify  $(12 + 5\sqrt{3})(\sqrt{3} - 2)$ .

14) Convert  $5.23\dot{9}$  into the form  $\frac{p}{q}$ .

15) Simplify  $\sqrt[3]{216} \div \sqrt{16}$

16) Is 2 a zero of  $5x^3 - 3x + 14$ ?

17) Find value of  $f(x) = 2x^2 + 7x + 3$  at  $x = -3$ .

18) Find the value of  $76^2 - 24^2$  using identity.

19) If  $x+y=9$  and  $xy=20$ , then find the value of  $x^2+y^2$ .

20) If  $p(x) = 6x^2 - 5x - 1$ , find the value of  $3p(-1) + 2p(0)$ .

### SECTION - C

21) Visualise  $5.\dot{6}2$  upto three decimal places.

22) Write two irrational and two rational numbers between  $\frac{5}{2}$  and  $\frac{19}{7}$ .

23) Find values of a and b if  $\frac{5\sqrt{2} + 3}{5\sqrt{2} - 7} = a - b\sqrt{2}$ .

24) Simplify  $\left(\frac{16}{81}\right)^{-3/4} \times \left[\left(\frac{25}{9}\right)^{-3/2} + \left(\frac{125}{8}\right)^{2/3}\right]$ .

25) Solve for x:

a)  $4^{2x} = \frac{1}{32}$

b)  $25^{x-1} \times 5^{2x+1} = 10^2 \times 5 + 5^3$

26) Factorise  $2x^3 + 3x^2 - 5x - 6$ .

27) a) If  $a+b+c=9$  and  $ab+bc+ca=26$ , find  $a^2+b^2+c^2$ .

b) Find value of  $(-10)^3 + 15^3 - 5^3$  without actually calculating cubes.

28) Without actual division show that  $2x^4 - 5x^3 + 2x^2 - x + 2$  is exactly divisible by  $x^2 - 3x + 2$ .

29) The polynomial  $p(x) = x^4 - 2x^3 + 3x^2 - 9x + 3a - 7$  when divided by  $x+1$

leaves the remainder 20, find value of a. Also find the remainder

when  $p(x)$  is divided by  $x+2$ .

30) a) If a, b, c are all non-zero and  $a+b+c=0$ , prove that  $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} = 3$ .

b) Factorise:  $a^7 + ab^6$ .

SECTION - D

31) If  $a = \sqrt{2} + 1$ , find value of:

i)  $a + \frac{1}{a}$

ii)  $a - \frac{1}{a}$

32) If  $x = 3 + 2\sqrt{2}$ , find value of:

i)  $\sqrt{x} - \frac{1}{\sqrt{x}}$

ii)  $x^2 + \frac{1}{x^2}$

33) Find values of x and y if  $\frac{2}{7 + 3\sqrt{5}} = x + y\sqrt{5}$

34) Find value of  $\frac{1}{\sqrt{3} + \sqrt{2}} + \frac{1}{\sqrt{4} + \sqrt{3}} + \frac{1}{\sqrt{5} + \sqrt{4}}$

35) Simplify:

a)  $\sqrt[5]{729} - 8\sqrt[3]{125} + 15\sqrt[4]{16} + 3\sqrt{225}$

b)  $\left[ 9 \left( 64^{\frac{1}{3}} + 125^{\frac{1}{3}} \right)^3 \right]^{\frac{1}{4}}$

36) If  $(x+2k)$  is a factor of  $f(x) = x^5 - 4k^2x^3 + 3x + 2k + 3$ , find k.

37) Factorise:

a)  $\frac{25}{4}x^2 - \frac{y^2}{49}$

b)  $2y^2 + 9y - 5$

38) a) Find the remainder when  $f(x) = 9x^3 - 3x^2 + 14x - 3$  is divided by

$g(x) = 3x - 1$ .

b) Check whether  $2x - 3$  is factor of  $2x^3 - 9x^2 + x + 12$  or not.

39) If the polynomials  $ay^3 + 4y^2 + 3y - 4$  and  $y^3 - 4y + a$  leave the same

remainder when divided by  $y - 3$ , find the value of a.

40) a) If  $a^2 + \frac{1}{a^2} = 14$ , find the value of  $a^3 + \frac{1}{a^3}$ .

b) If  $x + \frac{1}{x} = 3$ , find the value of  $x^4 + \frac{1}{x^4}$ .

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दर्शन अकादमी  
कक्षा -9 (2018-19)  
विषय -हिंदी ( कोर्स ब )  
( ग्रीष्मावकाश गृहकार्य )

1. निम्नलिखित शब्दों में वर्ण-विच्छेद कीजिये  
सक्षम ,द्वार ,विद्यालय ,विश्राम ,गीतिका ,कर्म ,काण्ड ,स्वर्णिम ,भक्ति ,श्रेष्ठ
2. त्व,पन,हीन,पूर्वक,अवकड़ , .ता .दार आहट-- प्रत्ययों से पाँच -पाँच शब्द लिखिए |
3. बे ,प्रति ,सु ,कु,ता ,स्व ,उप -उपसर्गों से पाँच -पाँच शब्द लिखिए
4. निम्नलिखित प्रश्नों के उत्तर दीजिये --  
संधि किसे कहते हैं ?संधि के कितने भेद होते हैं ?
5. निम्नलिखित शब्दों में संधि कीजिये --  
योग +अभ्यास ,लोक +उक्ति ,उत+ज्वल, सूर्य +उदय ,सु+आगत,सु +उक्ति
6. निम्नलिखित शब्दों में संधि विच्छेद कीजिये --  
शिवालय ,अत्यंत ,दिग्दर्शन ,चयन ,महेश ,पावक ,लम्बोदर
7. पढ़ाई गए पाठों काव्यांशों पर आधारित प्रश्नों के उत्तर लिखिए |
8. व्यायाम का महत्व बताते हुए अपने मित्र को पत्र लिखिए |
9. आज का युग इंटरनेट का युग \_शीर्षक से अनुच्छेद लिखिए |
10. जूतों की बिक्री के लिए एक आकर्षक विज्ञापन बनाइए|

## SCIENCE

### A) BIOLOGY

#### The fundamental unit of life

- 1) Why is cell called as the structural and functional unit of life?
- 2) Is an elephant cell longer than the cell of a rat?
- 3) How do new cells arise from the pre-existing cells?
- 4) What do you mean by selective permeable membrane?
- 5) Write the composition and function of cell wall?
- 6) Define the process of diffusion?
- 7) How osmosis is different from diffusion?
- 8) Differentiate the terms:
  - (i) Hypotonic
  - (ii) Isotonic
- 9) (iii) Hypertonic
- 10) What is that process by which amoeba acquires its food?
- 11) Draw the figure of an onion peel showing cells?
- 12) Make a model of plant and animal cell.

## Tissue

1. Define: a) meristem b) tissue c) xylem d) phloem.
2. Differentiate between apical, lateral, and intercalary meristem?
3. Write the function of sclerenchyma and parenchyma cells?
4. What are the main components of phloem?
5. What are the properties of xylem tracheids and vessels?
6. What is the utility of tissues in multicellular organisms?
7. Differentiate between smooth, striated and cardiac muscles with the help of diagram?

## **B) PHYSICS**

- 1) What do you mean by inertia? How is it related with inertial mass?
- 2) Interpret the meaning of balanced and unbalanced force with examples.
- 3) Define momentum. State its S.I. unit. On what factors does a momentum of a body depend?
- 4) How is Newton's first law of motion interpreted from Newton's second law of motion?
- 5) Why does a passenger experience a forward push when a running bus stops suddenly?
- 6) Explain why does a cricket player move his hands backwards, while catching a fast cricket ball.
- 7) A ship whose mass is  $5 \times 10^7 \text{ kg}$  is initially at rest is pulled by a force of  $15 \times 10^4 \text{ N}$  through a distance of 10m. If the resistance due to water is negligible then what is the speed of the ship.
- 8) A bullet of mass 10g is fired with a rifle. The bullet takes 0.003s to move through its barrel and leaves it with a velocity of 300m/s. What is the force exerted on the bullet by the rifle.
- 9) A 20g bullet pierce through a plate of mass  $m_1 = 1 \text{ kg}$  and then comes to rest inside a second plate of mass  $m_2 = 2.98 \text{ kg}$ . It is found that the two plates initially at rest, now moves with equal velocities. Find the percentage loss in the initial velocity of the bullet when it is moving between  $m_1$  and  $m_2$ . Neglect any loss of material of the plates due to action of the bullet.
- 10) Explain why a car does not move when the force is applied on it by a person present inside the car?
- 11) A bullet of mass 20g starts from rest from one end of the barrel of gun 1.5m long and weighing 40kg. The bullet leaves at the other end with a velocity of 350m/s. Calculate (i) the time taken by the bullet to leave the gun and (ii) the velocity of the recoil of the gun.
12. What is the difference between distance and displacement? Give two points. 14. Prove graphically and analytically following equations of motion: (i)  $V = U + at$  (ii)  $v^2 = u^2 + 2as$  (iii)  $S = ut + \frac{1}{2}at^2$
13. Draw velocity time graph when the acceleration is non-uniform. Also draw a velocity time graph of a stone thrown vertically upwards and then coming downwards after attaining the maximum height.
14. What are different types of motion around you, state with examples?
15. Abdul while driving school computes the average speed for his trip to be 20 Km/hr. On his return trip along the same route there is less traffic and average speed is 40Km/hr. What is the average speed for Abdul's trip?
16. Draw velocity time graph for a body moving with constant acceleration and non-zero initial velocity.
17. Give one example of a situation in which a body has a certain average speed but its average velocity is zero.
18. Joseph jogs from one end A to the other end B of a straight 300m road in 2 minutes 30 seconds and then turns around jogs 100m back to point C in another 1 minute. What are Joseph's average speed and Velocities in jogging from (a) from A to B (b) from A to C?
19. Convert 15 km/h to m/s and m/min.

## **C) CHEMISTRY**

1. On heating why does a solid change to liquid?
2. How are two temperature scale are inter related?
3. Can water be used as coolant? Why?
4. Indicate 46degree Celsius to Kelvin.
5. What is dry ice? How it is formed?
6. Draw a flow diagram representing the inter conversion of three states of matter.
7. What is atmospheric temperature? How it is measure?
8. Define the following term sublimation, evaporationand diffusion.
9. Give five examples from daily life where 'evaporation causes cooling phenomenon is used? Explain also.
10. How will you distinguish between saturated and unsaturated solutions?
11. Make a list of mixtures and compounds with their constituents. ( at least ten examples)
12. Enlist various separation methods to separate component of mixtures. Explain each one with examples.

## **SOCIAL SCIENCE**

### **HISTORY**

#### **CHAPTER 1**

1. On what charges were Louis XVI of France sentenced to death?
2. Who followed a policy of severe control and punishment of France?
3. "Ideas of liberty and democratic rights were the most important legacy of the French Revolution'. Explain the statement in the light of French Revolution.
4. Describe any four social and political factors that led to the outbreak of the revolutionary protest in France?
5. How did the revolution affect the everyday life of the people of France?
6. Highlight the political reason behind the French Revolution.

### **GEOGRAPHY**

#### **Chapter 1**

1. What is the westernmost longitude of India?
2. Which routes are the oldest and provided India's relationships with other countries?
3. Which meridian has been selected as the Standard meridian of India?
4. "India has long coastline which is advantageous."Explain.
5. How has the location of India contributed to exchange of ideas and commodities? Explain.
6. Map based questions:

On the given political Map of India mark and label the following:

Standard Meridians

Southern point (Indira point)

Prime Meridian State

Smallest State

Largest State

## **POLITICAL SCIENCE**

1. Are elections sufficient to guarantee the existence of democratic government? Give reasons for your answer?
2. Mention any three main features of a democratic government.
3. Mention the four main merits of a democratic government.
4. Describe the four main weaknesses of democracy?

## **ECONOMICS**

### **Chapter 1 and 2**

8. What is meant by working capital?
9. Write full form of HYV seeds?
10. In which type of activity is Dairy farming included?
11. Name any three known farming activities. Suggest any two measures to be taken to promote them.
12. What is meant by Green Revolution? Write any two main features.
13. What is Land? Suggest any four to sustain Land.