

PRATAP INTERNATIONAL SCHOOL, ROHINI, DELHI

HOLIDAYS HOMEWORK (2020-21)

CLASS - 9

SUBJECT-ENGLISH

Q-1 "Brain Drain is not a bane for a country like India." Write a debate in 150-200 words either for or against the motion.

Q-2 Design a poster with a suitable name on the given themes.

- a. Natural Disaster
- b. Health Issue
- c. Global activities

Q-3 Select the poems from the syllabus and highlight the presence of listed literary devices. Explain the literary devices and cite suitable examples from selected poems in a thin notebook. Given below is a list of literary devices that you can look for in your poem.

- a. Simile b. metaphor c. Personification d. Alliteration
- e. Repetition f. Oxymoron g. Refrain h. Hyperbole
- i. Allusion j. Apostrophe k. Irony l. Paradox
- m. Onomatopoeia

Q-4 Do Revision of all the chapters completed till now.

SUBJECT-MATHEMATICS

(1 mark)

1. If $8^{x+1}=64$, what is the value of 3^{2x+1} ?

- (i) 1 (ii) 3 (iii) 9 (iv) 27

2. Which of the following is irrational ?

- (i) 0.14 (ii) 0.1416 (iii) 0.1416 (iv) 0.1014001400014....

3. Which of the following is rational?

- (i) $\sqrt{3}$ (ii) π (iii) $4/0$ (iv) $0/4$

4. $\sqrt{2}$ is a polynomial of degree?

- (i) 1 (ii) 2 (iii) 0 (iv) 3

5. Every rational number is a

- (i) natural number (ii) real number (iii) integer (iv) whole number

6. Express 0.3 in p / q form.

7. Find the value of $(3^0 + 2^0) / 5^0$

8. Find the decimal expansion of:

- a) $8/3$ b) $2/11$ c) $-16/45$ d) $22/7$

9. Find the degree of the following polynomial :

- (i) 15 (ii) x (iii) $x + x^2$ (iv) y

10. Simplify $13^{1/5} / 13^{1/3}$

(2 marks)

11. Represent $\sqrt{6}$, $\sqrt{7}$ & $\sqrt{8}$ on the number line.

12. Is the expression $3\sqrt{t} + t\sqrt{2}$ polynomial in one variable or not? Give reasons.

13. Check whether -2 and 2 are zeros of the polynomial $x + 2$

14. Find the remainder when $x^3 - ax^2 + 6x - a$ is divided by $x-a$.

15. Use factor theorem to determine that $(x-3)$ is factor of $x^3 - 4x^2 + x + 6$

16. Insert 10 rational numbers between $-3/11$ and $8/11$

17. Express each in p/q form:

(a) 15.725 b) 8.0025 c) -25.6875 d) 0.585 e) 23.43

18. Find the value of k if $(x-3)$ is a factor of $k^2 x^3 - kx^2 + 3kx - k$

19. Find the dimensions of a cuboid if its volume is $3x^2 - 12x$

20. Evaluate (i) $(30)^3 + (20)^3 - (50)^3$ (ii) $(-12)^3 + (7)^3 + (5)^3$

(3 marks)

21. Simplify the following expressions:

(a) $(\sqrt{3} + \sqrt{7})^2$ b) $(\sqrt{5} - \sqrt{3})^2$ c) $(2\sqrt{5} + 3\sqrt{2})^2$

22. Rationalise the denominator and simplify:

a) $(\sqrt{3} - \sqrt{2}) / (\sqrt{3} + \sqrt{2})$ b) $(5 + 2\sqrt{3}) / (7 + 4\sqrt{3})$ c) $(1 + \sqrt{2}) / (3 - 2\sqrt{2})$

23. Write in expanded form:

a) $(2x + 3y)^3$ b) $(3x - 2y)^3$ c) $(7a + 5b)^3$

24. If $2x + 3y = 13$ and $xy = 6$, find the value of $8x^3 + 27y^3$

25. Evaluate:

a) $(1002)^3$ b) $(999)^3$ c) $(598)^3$

26. Find the following products:

a) $(x+3y)(x^2 - 3xy + 9y^2)$ b) $(7a - 5b)(49a^2 + 35ab + 25b^2)$

27. Find the following products:

(i) $(x+y+2z)(x^2 + y^2 + 4z^2 - xy - 2yz - 2zx)$ (ii) $(2x-y+3z)(4x^2 + y^2 + 9z^2 + 2xy + 3yz - 6xz)$

28. Factorise :

a) $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ b) $5\sqrt{5}x^2 + 30x + 8\sqrt{5}$

29. Factorise :

a) $p^3 - 512q^3$ b) $2\sqrt{2}a^3 + 8b^3 - 27c^3 + 18abc$

30. Find the remainder when $f(x) = x^3 - 6x^2 + 2x - 4$ is divided by $g(x) = 1 - 3x$

(4 marks)

31. If $x = 3 + \sqrt{8}$, find $x^2 + (1/x^2)$

32. Solve $[(\sqrt{5} - 2)/(\sqrt{5} + 2)] - [(\sqrt{5} + 2)/(\sqrt{5} - 2)]$

33. Factorise $a^7 - ab^6$

34. Simplify : (i) $[1/(1+\sqrt{2})] + [1/(\sqrt{2}+\sqrt{3})] + [1/(\sqrt{3}+\sqrt{4})] + [1/(\sqrt{4}+\sqrt{5})]$

(ii) $4+\sqrt{5} + 4-\sqrt{5} + 4-\sqrt{5} + 4+\sqrt{5}$

35. If $(x + 5)$ is a factor of $x^3 + 2x^2 - 13x + 10$, find other factors.

36. Rationalise

(i) $[4 / (2 + \sqrt{3} + \sqrt{7})]$

(ii) $[(3\sqrt{2} - 2\sqrt{3}) / (3\sqrt{2} + 2\sqrt{3})] + [\sqrt{12} / (\sqrt{3} - \sqrt{2})]$

37. If $(x + y + z) = 0$, show that $x^3 + y^3 + z^3 = 3xyz$

38. Factorise (i) $4a^2 - 9b^2 - 2a - 3b$ (ii) $a^2 - b^2 - 2(ab - ac + bc)$

39. Without actual division, prove that $2x^4 - 6x^3 + 3x^2 + 3x - 2$ is exactly divisible by $x^2 - 3x + 2$

40. Plot the following points on the graph and write in which quadrant or on which axis they lie.

(2,3) ,(3,-4) ,(7,-2) ,(3,0) ,(4,7) ,(5,-5) ,(2,0) ,(0,5) ,(0,-2) ,(0,0) ,(1,4) ,(3,4) ,(-5,4)

***** Note : Home work should be done on A – 4 size sheet. Get it Spiral bound and submit it when the school reopen.**

SUBJECT-SCIENCE

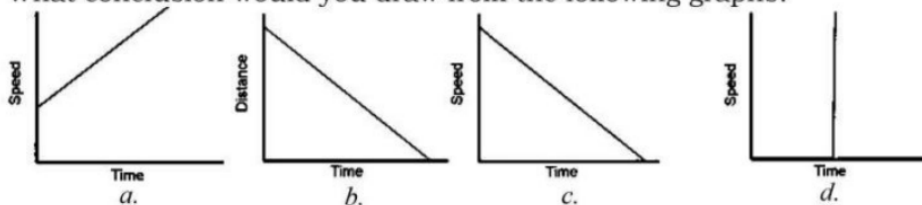
BIOLOGY

1. Why are lysosomes known as 'suicide-bags' of a cell?
2. Name any cell organelle which is non membranous.
3. Name the organelles which show the analogy written as under
 - (a) Transporting channels of the cell ---
 - (b) Power house of the cell ----
 - (c) Packaging and dispatching unit of the cell ----
 - (d) Digestive bag of the cell ----
 - (e) Storage sacs of the cell ---
 - (f) Kitchen of the cell ---
 - (g) Control room of the cell ---
4. How do substances like carbon dioxide and water move in and out of the cell?
5. Name the two organelles in a plant cell that contain their own genetic material and ribosomes.
6. What are the consequences of the following conditions?
 - (a) A cell containing higher water concentration than the surrounding medium.
 - (b) A cell having low water concentration than the surrounding medium.

- (c) A cell having equal water concentration to its surrounding medium.
- Differentiate between rough and smooth endoplasmic reticulum. How is endoplasmic reticulum important for membrane biogenesis?
 - Name the materials which are stored in leucoplast.
 - Name the two types of parenchyma. Also write their importance.
 - Differentiate between Lateral and Intercalary meristem.

PHYSICS

- (i) Calculate distance & displacement in the following cases-
- An object moving along the boundary of circular track of diameter 10m & completes 4.5 rounds.
 - A boy started jogging from his home & moves 500m towards West then 400m towards South, then 600m towards East & finally 400m towards North.
- (ii) What conclusion would you draw from the following graphs?



- (iii) Draw the graph for following situations-
- Object at rest (distance - time)
 - Object at zero acceleration (distance - time, velocity - time)
 - Object at uniform retardation (velocity - time)
 - Object first accelerated uniformly, then constant speed & finally retarded non-uniformly (velocity - time)

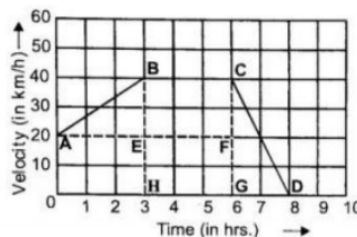
(iv) Solve -

- A bus increases its speed from 36km/h to 90km/h in 10 seconds and stops in 5 seconds after applying brakes. Calculate acceleration in both cases.
- A car travels 200km at a speed of 60km/h & returns with a speed of 40km/h. Calculate average speed for the entire journey.

(v) The velocity-time graph of a moving object is as follows -

Find -

- Velocity of object at point C.
- Acceleration acting on object between A to B, B to C & C to D.
- Total distance covered in 8 hours.



CHEMISTRY

- 1) WHEN COMMON SALT DISSOLVED IN WATER, WHAT WILL BE THE CHANGE IN VOLUME AND WHY?
- 2) WE CAN MOVE OUR HAND IN AIR BUT TO DO THE SAME THROUGH A SOLID block of WOOD WE NEED KARATE EXPERT.WHY?
- 3) OUT OF HONEY OR INK WHICH WILL DIFFUSE FASTER AND WHY?
- 4) WHY WATER AS STEAM MAY CAUSE SEVERE BURNS BUT WATER AS ICE HAS COOLING EFFECT?
- 5) EXPLAIN WHY TEMPERATURE REMAIN CONSTANT DURING INTERCONVERSION OF STATE OF MATTERS?
- 6) WHAT IS CHEMICAL NAME OF DRY ICE? WHY IT IS CALLED DRY ICE?
- 7) WE FEEL COLD WHEN WE DONE VIGOROUS EXERCISE.WHY?
- 8) DURING RAINY SEASON CLOTHES TAKLES MORE TIME TO DRY UP?
- 9) WHY DO DOCTOR ADVISE TO PUT STRIPS OF WET CLOTH ON THE FOREHEAD OF A PERSON SUFFERING FROM HIGH FEVER?
- 10) SEA DIVERS FOLLOW STREAM LINED ACTION WHILE DIVING IN SEA.WHY?

हिंदी

कक्षा : 9th

अंक - 5

1. कबीर के दोहे, रसखान के सवैये किसी एक विषय पर परियोजना कार्य करें। 3
2. उपसर्ग - प्रत्यय या समास से संबंधित चार्ट बनाए। 2

नोट: पढ़ाए गए सभी पाठों का कार्य पूर्ण करें और पुनः दोहराए।

COMPUTER APPLICATIONS

BOOK NAME: CYBER BEANS

CHAPTER 1: COMPUTER SYSTEM (ALL UNSOLVED EXERCISE QUESTIONS)

CHAPTER 2: INPUT AND OUTPUT DEVICE (ALL UNSOLVED EXERCISE QUESTIONS)

CHAPTER 3: TYPES OF SOFTWARE (ALL UNSOLVED EXERCISE QUESTIONS)

Social Science

Class IX

History:

Which groups of French society benefited from the revolution? Which groups were forced to relinquish power? Which sections of society would have been disappointed with the outcome of the revolution?

Political Science:

"Popular governments may be undemocratic." Give an example to support the statement.

Economics:

What are the different ways of increasing production on the same piece of land? Use example to explain.

Geography:

Collect information about the 'Silk Route'. Also find out the new developments, which are improving Communication routes in the regions of high altitude.

Project Work

Make a project on Disaster Management.

General Instructions:

1. The Project should be handwritten.
2. The project should be 10-15 pages.
3. It should cover Pandemic Diseases.
4. Use Pictures, Graphic Representations, Tables, etc.,