

6th Class

English Winter Break

M. M. W

1. Do in file folders

① Story writing

a) The goose that laid the golden egg

b) The hare and the lion.

c) The ass and his load of salt

d) Alice in wonderland.

2. The monkey and the capseller
Collage making

a) Kalpana Chawla

b) Desert Animals

3. Read & write chapter 8, 9, 10
of both books. Q Ans + exercises

4. Write 30 opposites. with sentences

5. Write 30 adjectives use them in
your own sentences.

6. Read any book & write the book
review.

2^{रा}

कक्षा - छठी (हिन्दी) (अ)

- 1 नववर्ष एवं किसमस पर निबन्ध लिखिए।
- 2 राम के वन जाने की घटना का वर्णन कीजिए।
- 3 10 पेज सुलेख लिखिए।
- 4 अपने परिवार के सदस्यों के कार्यों की सूची बनाइए।
- 5 हिन्दी में प्रार्थना, प्रतिज्ञा लिखकर याद कीजिए।
- 6 ककहरा का ख, ग - - - - - वारहाक्षरी के, की, कि - - - - - के से ज लिखकर अभ्यास कीजिए।
- 7 पाठ कु. 11, 12, 13, 14 वसन्त भाग - 1 पाठों का अध्ययन कीजिए।
- 8 02 लघु-कविता लिखकर याद कीजिए।

~~09/11/2021~~
~~R. K. Sharma~~

शीतकालीन अवकाश गृहकार्य
 कक्षा - एठवी (क)
 विषय - हिन्दी

- 1- प्रतिदिन दस शब्द श्रुतलेख।
- 2- प्रतिदिन एक पैज श्रुलेख।
- 3- प्रतिदिन एक पैज वाचना।
- 4- कक्षा का वर्ग बदलवाने के लिए अपने प्राचार्य को प्रार्थना पत्र लिखें।
- 5- संवाद लेखन -
 दुकानदार ग्राहक के बीच
 पिता और पुत्र के बीच
- 6- अनुच्छेद लेखन -
 नववर्ष
 शीत ऋतु के आगमन
 क्रिसमस डे
- 7- शब्दकोष तैयार करें।
- 8- उपसर्ग एवं प्रत्यय के 10-10 उदाहरण लिखें।

के० वि० इन्दौर

शीतकालीन अवकाश गृहकार्यम्

PAGE 2019
DATE: [] [] []

कक्षा - षष्ठी (संस्कृत)

- 1 बालक, बालिका, पुष्प शब्दरूप लिखकर याद कीजिए।
- 2 १-५० (1-50) तक संख्या संस्कृत में लिखिए।
- 3 पठ धातु के चारों लकार लिखें व याद कीजिए।
- 4 संस्कृत प्रतिज्ञा व संस्कृत प्रार्थना छात्र-डायरी से लिखकर याद कीजिए।
- 5 विद्यया धनम्, दशमः त्वम् आसि, पुष्पोत्सवः एवं कृषिकाः कर्मवीराः पाठों को अच्छे से पढ़िए।
- 6 १-२० (1-20) पर्यन्त संख्या याद कीजिए।
- 7 02 श्लोक याद करके लिखिए अर्थ सहित।
- 8 वारहाक्षरी क-ज तक लिखिए। के, को, कि, की - ...।
- 9 05 पेज सुलेख लिखिए।

रामेश्वर
R.K. Sharma

KENDRIYA VIDYALAYA NO.1 (IInd shift) INDORE
Holyday Home work December 2019
CLASS - VI

MATHEMATICS

- 1 In a bar graph space between rectangles is always (a) Unequal (b) Increasing (c) decreasing (d) equal
- 2 In an Mathematics test, the following marks were obtained by 40 students. Arrange these marks in a table using tally marks.
- 3 Total number of animals in five villages are as follows:
Village A: 80
Village B: 120
Village C: 90
Village D: 40
Village E: 60
Prepare a pictograph of these animals using one symbol \otimes to represent 10 animals and answer the following questions:
(a) How many symbols represent animals of village E?
(b) Which village has the maximum number of animals?
(c) Which village has more animals: village A or village C?
- 4 The marks out of 100 obtained by 20 children are given below:
80,40,20,60,50,50,50,40,90,70,50,60,20,50,60,70,40,90,70,30 Find the number of children who obtained
(a) Marks more than or equal to 50 (b) Marks below 20
- 5 Draw a bar graph for the following data taking scale of 1 unit length=5 students
- | Preferred activity | Number of students |
|--------------------|--------------------|
| Playing | 45 |
| Reading story book | 30 |
| Watching T.V. | 20 |
| Listening to music | 10 |
| Painting | 15 |
- 6 If length of side of a square 15 cm then find its perimeter
- 7 The perimeter of a regular pentagon is 100 cm. How long is its each side?
- 8 The area of a rectangular is 50m long is 450 sq m. Find its width and perimeter also
- 9 A floor is 5m long and 4m wide. A square carpet of side 3m is laid on the floor. Find area of the floor that is not carpeted
- 10 Perimeter of a regular pentagon with each side 2cm is
- 11 Find the perimeter of the figures given below (a) A pentagon of each side=5cm (b) A parallelogram of sides 2cm and 3cm respectively



- 12 A room is 4m long and 3m wide. How many square metres of carpet is needed to cover the floor of the room? Also find the cost of the carpet if 1 square metre costs Rs.20.
- 13 If there are 50 mangoes in a box, how will you write the total number of mangoes in terms of the number of boxes? (Use b for number of boxes)
- 14 Which out of the following expression with numbers only? (i) $y + 3$ (ii) $(7 - 8z)$ (iii) 5 (iv) $3x$
- 15 Write in expression: (i) 12 subtracted from z (ii) y divided by 8 (iii) x multiplied by 10 and then 7 is added to the product
- 16 Pick out the solution from Values given in the bracket next to each equation show that the other values do not satisfy the equation
(i) $5m = 60$ (10,5,12,15) (ii) $n + 12 = 20$ (12,8,20,0) (iii) $p - 5 = 5$ (0,10,5,-5)
- 17 Choose the correct solution of the equation $y - 5 = 5$
- 18 Give expressions for the following cases: (a) 5 added to p (b) $-p$ is multiplied by 7
- 19 Answer the following by taking Sarita's present age to be "x" years (a) What will be her age 5 years from now?
(b) What was her age 5 years back? (c) Sarita's grandfather is 5 times her age. What is the age of her grandfather?
- 20 Pick out the correct solution from the given values in the bracket next to each equation (a) $p/2 = 9$ (9,7,18,11) (b) $n + 12 = 15$ (12,3,27,8)
- 21 The expression for 15 subtracted from 5m is _____
- 22 Give expression for a) y is multiplied by -7 b) 4 added to p
- 23 Present age of father is 42 years and that of his son is 14 years. Find the ratio of
(a) Present age of father to the present age of son (b) Age of father to the age of son when son was 10 years old.
- 24 Rama is drawing a dot rangoli. She has 6 dots in a row. How many dots will her rangoli have for 'r' rows? How many dots are there if there are (a) 8 rows (b) 10 rows?
- 25 Find ratio 81 to 108
- 26 If $5:4::30:x$, then find the value of x
- 27 There are 45 persons working in an office. If the number of females is 25 and the remaining are males, find the ratio of:
(a) The number of females to number of males. (b) The number of males to number of females.
- 28 The weight of 72 books is 9 kg. what is the weight of 40 such books?
- 29 Choose the correct equivalent ratio of 3:2 (a) 12:8 (b) 3:4 (c) 8:12 (d) 5:6
- 30 Find the ratio of (a) 30 minutes to 2 hours (b) 55 paise to Re.1
- 31 The weight of 72 books is 9 kg. What is the weight of 40 such books?
- 32 In a college, out of 5000 students, 2000 are girls. Find the ratio of
(a) Number of girls to the total number of students. (b) Number of boys to the number of girls.
- 33 The ratio 500ml to 2 litres is _____ A) 500:2 B) 1:4 C) 1:2 D) 5:2
- 34 If the cost of 12 books is Rs 96, then the cost of one book is A) Rs 8 B) Rs 6 C) Rs 4 D) Rs 10
- 35 Determine whether 30, 40, 45 and 60 are in proportion or not?
- 36 Divide 30 pens between Raju and Ravi in the ratio 3:2
- 37 Are the ratios 25g : 30g and 40kg : 48kg in proportion ?
If they are in proportion write the middle terms and extreme terms.

CLASS - VI

SCIENCE

Holiday H.W (WINTER BREAK)

① Page - 106 (Motion and Measurement)

Q. 3, 6, 10, 4.

② Page - 110 (Light, shadows and Reflection)

Make your own pinhole camera using
O2 boxes and tracing paper.

③ Page - 116, 117, 119. (Electricity and Circuits)

Draw a practice diagrams -

Fig. 12.1, 12.2, 12.6.

④ Page - 123

Q. 1, 3, 7.

⑤ Draw the diagrams of magnets of different
shapes. (Page - 126).

S. D.
S. Sharma

(SHIFT=II) WINTER BREAK

Class-VI A, B

VIJAYSHRI
PAGE NO.:
DATE:

CLASS teacher = Arpana Punekar

1. Who was the founder of Buddhism?
2. Who is the head of a police station?
3. What is the main occupation of villagers?
4. Which is the largest continent of the world?
5. Which two major rivers fall into the Arabian Sea?
6. List any two work ~~river~~ of a patwari?
7. What were the problems that Ashoka wanted to solve by introducing dhamma?
8. How do women benefit under Hindu Succession (Amendment) Act 2005 law?
9. Write the non-farm work of villages?
10. What are the different types of mountains?
11. Why is Lakshadweep known as cord island?
12. List four ways in which the work of the Municipal Corporation affects the life of the city-dwellers?
13. Which is the smallest continent of the world?
14. Which country share land boundaries with seven countries?
15. Christmas is celebrated in summer — — — —
16. What is the work of the police?
17. Write the name of the major physical division of India?
18. What is the work of Tehsildar? Explain.
19. What were the main features of Bhakti?
20. Measuring land and keeping land records is the main work of _____.
21. The mountain range that separates Europe from Asia is _____.
22. Name the major continents of the earth.

23. Write any 3 uses of Mountain.
24. For whose worship Mathura was an important Center?
25. Which is the largest ocean of the Earth?
26. Why are the river plain thickly populated?
27. How do women benefit under the new laws.
28. Panchayat President is called _____.
29. What were the means adopted by Ashoka to spread the Message of Dhamma?
30. Write three words of gram panchayat.
31. What is the difference between a mountain and plateau?

7th Class

English Winter Break H.M.W

1. Story writing

- a) The capseller & the monkey
- b) The stag & his beautiful horns
- c) The hare and the tortoise
- d) The greedy dog

2. Collage making: information + picture in H.M.W notebook

- a) Dr. A.P.J. Abdul Kalam
- b) fire: friend & foe

3. 30 opposites write & learn

4. 30 adjectives write & learn to use them in sentences

5. Read any book & write the book review issued from library

6. Read & write Q Ans of chapter 6, 7, 8, 9 of both books in your notebook

शीतकालीन अवकाश गृहकार्य
कक्षा (सातवीं)
विषय (हिन्दी)

- 1- प्रतिदिन समाचार - पत्र का वाचन
2. बाल महाभारत पाठ 20 से 30 तक का वाचन
3. पाठ 11 से पाठ 17 तक के प्रश्न - उत्तर द्या करौ
4. अनुच्छेद लिखो -
नववर्ष
किसमस डे
गणतंत्र दिवस
5. संवाद लेखन - माँ और बेटी के बीच
आप और आपके मित्र के बीच
6. पुस्तकालय में नई बाल - पत्रिकाएँ मँगवाने के
लिए अपने प्राचार्य को पत्र लिखिए।
7. शब्दकोष तैयार करौ।

शी

श्रीतकालीन अवकारा गृहकार्यम्

शीतकालीन अवकारा गृहकार्यम्

J.P.

NO.:

DATE:

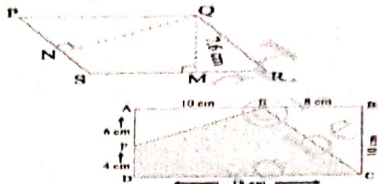
- 1 कक्षा-सप्तमी (संस्कृतम्)
- 1 पतत्, तत्, किम् शब्द रूप लिखकर याद (संस्कृत से) करे।
- 2 विद्याधनम् पाठ से 04 श्लोक लिखे एवं याद करे।
- 3 संस्कृत प्रार्थना, प्रतिज्ञा एवं संस्कृत गीत (लिखे) एवं याद करे।
- 4 विद्याधनम्, समवायो हि दुजयः, विश्ववन्द्युत्वम्, अहमपि विद्यालय गमिष्यामि (पाठों को अच्छे से समझकर प्रश्नोत्तर याद कीजिए।)
- 5 वारहाक्षरा लिखिए क- - ज तक। यथा-
क, का, कि, की - - - -
- 6 07 पेज सुलेख लिखिए।

R.K. Jaiswal

KENDRIYA VIDYALAYA NO.1 (IInd shift) INDORE
Holyday Home work December 2019
CLASS - VII

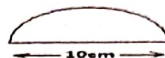
MATHEMATICS

- 1 Which of the following angle is constructed by ruler and compass: 30° , 20° , 90° , 35°
- 2 Draw a line segment AB of length of 6 cm take a point P on it from P draw a line segment PQ of length of 4 cm.
- 3 Construct a ΔXYZ where $XY = 6$ cm, $YZ = 7$ cm and $ZX = 8$ cm
- 4 Construct a ΔABC where $m \angle B = 60^\circ$, $AB = 5.5$ cm and $BC = 7.5$ cm
- 5 1 hectare = _____ (a) 1000 Sq m (b) 1000 Sqcm (c) 10000 Sqm (d) 10000Sq km
- 6 A wire is in the shape of a rectangle. Its length is 40 cm and breadth is 22 cm. If the same wire is rebent in the shape of a square, what will be the measure of each side.
- 7 Find the area of each of the following triangles:
- 8 PQRS is a parallelogram. QM is the height from Q to SR and QN is the height from Q to PS. If $SR = 12$ cm and $QM = 7.6$ cm. Find:
 (a) the area of the parallelogram PQRS (b) QN, if $PS = 8$ cm



- 9 In the following figure, find the area of the shaded portions:

- 10 Find the circumference of the circle with radius 14 cm.
- 11 Find the area of the square park whose perimeter is 320 m.
- 12 If two cubes of dimensions 2cm by 2cm by 2cm are placed side by side, what would be the dimensions of the resulting cuboid?
- 13 A garden is 90m long and 75m broad. A path 5m wide is to be built outside and around it. Find the area of the path.
- 14 Find perimeter of the adjoining figure, which is semi circle including its diameter



- 15 How many times a wheel of radius 28 cm must rotate to go 352 m ?
- 16 Two cross roads each of width 10 cm, cut at right angles through the centre of a rectangular park of length 700m and breadth 300m and parallel to its sides. Find areas of roads. Also find the area of park excluding cross roads
- 17 If $-2/5 = 24/x$ then find x
- 18 The algebraic expression of the statement: Sum of numbers a and b subtracted from their product.
 (a) $(a + b) - ab$ (b) $(a - b) - ab$ (c) $ab - (a + b)$ (d) none
- 19 Find the value of the following expressions: $5n - 2$ when $n = -2$.
- 20 What should be the value of a if the value of $2x^2 + x - a$ equals to 5, when $x = 0$?
- 21 From the sum of $4 + 3x$ and $5 - 4x + 2x^2$, subtract the sum of $3x^2 - 5x$ and $-x^2 + 2x + 5$.
- 22 Simplify: $21b - 32 + 7b - 12$
- 23 Classify monomial, binomial, trinomial from the following. (i) $5x+2$ (ii) $9x + 3y + 2z$ (iii) $11x$
- 24 From the sum of $3x - y + 11$ and $-y - 11$, subtract $3x - y - 11$.
- 25 Convert into algebraic expression: (i) The number y multiply by itself (ii) Product of y and z subtracted from 10
- 26 Classify the following into monomials, binomials and trinomials: (i) $4y-7z$ (ii) $3x^2 + 7xy + y^2$ (iii) $3m$ (iv) $x^2 - y^2$
- 27 Add $14x + 10y - 12xy - 13$, $18 - 7x - 10y + 8xy$, $4xy$
- 28 Subtract $5a^2 - 7ab + 5b^2$ from $3ab - 2a^2 - 2b^2$
- 29 Simplify following expression and find their values if $x = 3$, $a = -1$, $b = 2$ (i) $3a + 5 - 8b + 7a - 2b - 3$ (ii) $2 - 8x + 4x + 6$
- 30 Simplify : $2^0 \times 3^0 \times 4^0$
- 31 Express into the Standard form : 70, 040, 000, 000
- 32 Express each of the following as product of powers of their prime factors: (a) 648 (b) 3600
- 33 Simplify and express in exponential form:
- 34 Write the number in standard form 53000000.
- 35 Express 256 as a power of 2.
- 36 Write in expanded form using the power of 10. (i) 375023 (ii) 8613002
- 37 Express following numbers using exponential notation: (i) 512 (ii) 3125
- 38 Using laws of exponents, simplify and write the answer in exponential form:
- 39 write 279404 in expanded form
- 40 Express 3,90,878 in standard form
- 41 Simplify: $\frac{25 \times 5^2 \times 1^8}{10^3 \times 1^3}$

HOLIDAY H-W (Winter Break).

CLASS - VII.

SCIENCE

- ① Attempt 03 PISA test items (scientific literacy) provided to you (photocopy given).
- ② Draw and practice the diagrams -
 - (a) Page - 123.
Fig. 11.3.
 - (b) Page - 124, 127
Fig - 11.4; 11.6.
 - (c) Page - 136, 137.
Fig - 12.6, 12.7, 12.8, 12.9, 12.10
 - (d) Page - 138; 139.
Fig. 12.11, 12.13, 12.14; 12.15
 - (e) Page - 161 (Electric Current & its Effects).
Fig - Components & Symbols.
Page - 163.
Fig. 14.8.
- ③ Page - 131, 132 (Transportation).
Q. 1, 5, 8, 11
- ④ Page - 141 (Reproduction)
Q. 2, 6, 9, 4.
- ⑤ Page - 156, 157 (Motion & Time).
Q. 3, 4, 6, 7
- ⑥ Page - 171,
Q. 2, 3, 4.
- ⑦ Make your own stethoscope using funnel, tube & balloon.

THIRD ROUND OF TEST ITEMS

SCIENTIFIC LITERACY

Test Item 1: Bee Colony Collapse Disorder

Unit Overview

This released unit deals with the phenomenon known as bee colony collapse disorder. The stimulus materials include a short text introducing the phenomenon and a graph showing results of a study investigating the relationship between the insecticide imidacloprid and bee colony collapse disorder.

Bee Colony Collapse Disorder
Item #1

PISA 2015

Bee Colony Collapse Disorder
Question 115

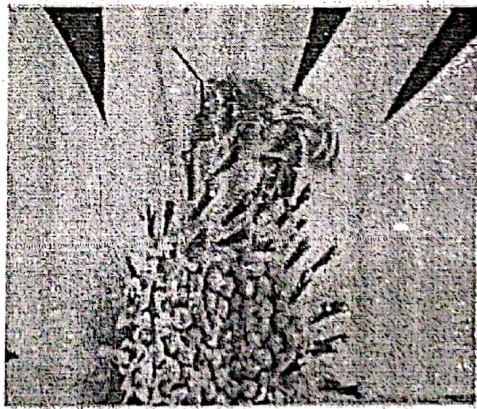
Refer to "Bee Colony Collapse Disorder" on the right.
Type your answer to the question.

Understanding colony collapse disorder is important for people who keep and study bees, but colony collapse disorder also has an effect beyond the bees. People who study birds have identified an impact. The sunflower is a food source for both bees and certain birds. Bees feed on the nectar of the sunflower, while the birds feed on the seeds.

Given this relationship, why might the disappearance of bees result in a decline in the bird population?

BEE COLONY COLLAPSE DISORDER:

An alarming phenomenon is threatening bee colonies around the world. This phenomenon is called colony collapse disorder. Colony collapse occurs when bees abandon the beehive. Separated from the hive, the bees die, so colony collapse disorder has caused the death of tens of billions of bees. Researchers believe that there are a number of causes for colony collapse.



PISA 2015

Bee Colony Collapse Disorder
Question 2/5

Refer to "Exposure to Imidacloprid" on the right.
Select from the drop-down menus to complete the sentence.

Describe the researchers' experiment by completing the following sentence.

The researchers tested the effect of

Select on

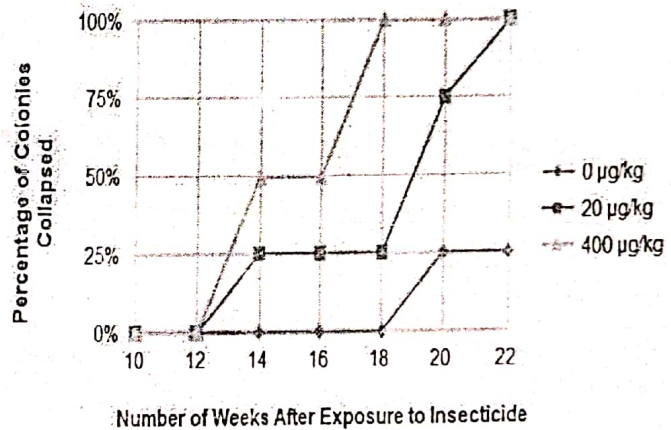
Select

BEE COLONY COLLAPSE DISORDER
Exposure to Imidacloprid

Scientists believe that there are multiple causes for colony collapse disorder. One possible cause is the insecticide imidacloprid, which may cause bees to lose their sense of orientation when outside the hive.

Researchers tested whether exposure to imidacloprid leads to colony collapse. In a number of hives, they added the insecticide to the bees' food for three weeks. Different hives were exposed to different concentrations of the insecticide, measured in micrograms of insecticide per kilogram of food ($\mu\text{g}/\text{kg}$). Some hives were not exposed to any insecticide.

None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Students are asked to select from among three options in each drop-down menu. Those options include:

1. collapse of bee colonies
2. concentration of imidacloprid in food
3. bee immunity to imidacloprid

Bee Colony Collapse Disorder

Item #3

PISA 2015

Bee Colony Collapse Disorder

Question 3/5

Refer to "Exposure to Imidacloprid" on the right. Click on a choice to answer the question.

Which one of the following conclusions matches the results shown in the graph?

- Colonies exposed to a higher concentration of imidacloprid tend to collapse sooner.
- Colonies exposed to imidacloprid collapse within 10 weeks of exposure.
- Exposure to imidacloprid at concentrations below 20 $\mu\text{g}/\text{kg}$ does not harm colonies.
- Colonies exposed to imidacloprid cannot survive for more than 14 weeks.

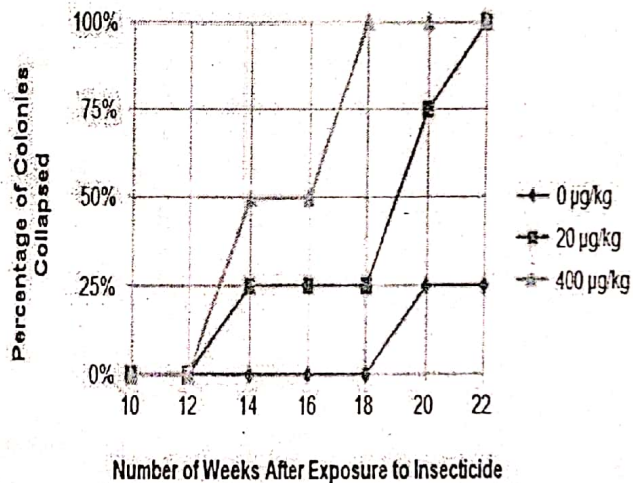
BEE COLONY COLLAPSE DISORDER

Exposure to Imidacloprid

Scientists believe that there are multiple causes for colony collapse disorder. One possible cause is the insecticide imidacloprid, which may cause bees to lose their sense of orientation when outside the hive.

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None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Bee Colony Collapse Disorder
Item #4

PISA 2015

Bee Colony Collapse Disorder

Question 415

Refer to "Exposure to Imidacloprid" on the right. Type your answer to the question.

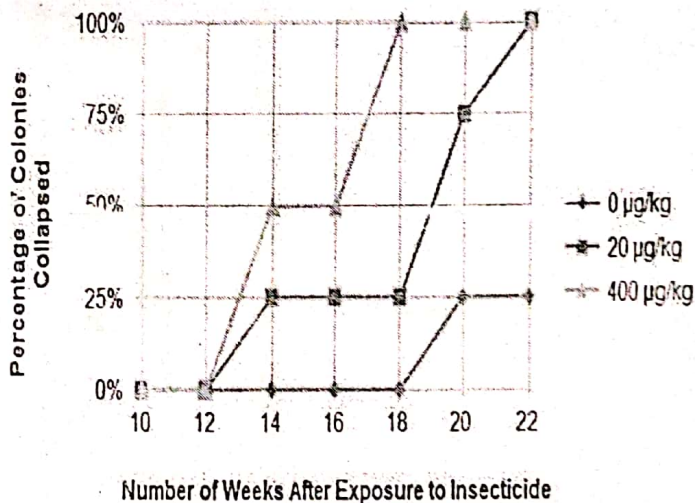
Look at the result in week 20 for the hives that the researchers did not expose to imidacloprid (0 $\mu\text{g}/\text{kg}$). What does it indicate about causes of collapse among the studied colonies?

BEE COLONY COLLAPSE DISORDER
Exposure to Imidacloprid

Scientists believe that there are multiple causes for colony collapse disorder. One possible cause is the insecticide imidacloprid, which may cause bees to lose their sense of orientation when outside the hive.

Researchers tested whether exposure to imidacloprid leads to colony collapse. In a number of hives, they added the insecticide to the bees' food for three weeks. Different hives were exposed to different concentrations of the insecticide, measured in micrograms of insecticide per kilogram of food ($\mu\text{g}/\text{kg}$). Some hives were not exposed to any insecticide.

None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Bee Colony Collapse Disorder

Item #5

PISA 2015

Bee Colony Collapse Disorder

Question 5/5

Click on a choice to answer the question

Scientists have proposed two additional causes for colony collapse disorder:

- A virus that infects and kills the bees.
- A parasitic fly that lays its eggs in the abdomen of the bees.

Which of the following findings supports the claim that bees die because of a virus?

- Eggs of another organism were found in hives.
- Insecticides were found inside the bees' cells.
- Non-bee DNA was found inside the bees' cells.
- Dead bees were found in hives.

Test Item 2: Fossil Fuels

Unit Overview

This released unit explores the relationship between the burning of fossil fuels and CO₂ levels in the atmosphere. The stimulus material includes a diagram illustrating how carbon cycles in the environment and a short text describing strategies for reducing the amount of CO₂ released into the atmosphere, a table comparing the characteristics of ethanol and petroleum when used as fuel, and a graph illustrating the results of a mathematical model that calculates carbon capture and storage at three different ocean depths.

Fossil Fuels Item #1

PISA 2015

Fossil Fuels
Question 114

Refer to "Fossil Fuels" on the right. Click on a choice to answer the question.

Using biofuels does not have the same effect on atmospheric levels of CO₂ as using fossil fuels. Which of the statements below best explains why?

- Biofuels do not release CO₂ when they burn.
- Plants used for biofuels absorb CO₂ from the atmosphere as they grow.
- As they burn, biofuels take in CO₂ from the atmosphere.
- The CO₂ released by power plants using biofuels has different chemical properties than that released by power plants using fossil fuels.

FOSSIL FUELS

Many power plants burn carbon-based fuel and emit carbon dioxide (CO₂). CO₂ released into the atmosphere has a negative impact on global climate. Engineers have used different strategies to reduce the amount of CO₂ released into the atmosphere.

One such strategy is to burn biofuels instead of fossil fuels. While fossil fuels come from long-dead organisms, biofuel comes from plants that lived and died recently.

Another strategy involves trapping a portion of the CO₂ emitted by power plants and storing it deep underground or in the ocean. This strategy is called carbon capture and storage.

The diagram illustrates the carbon cycle and carbon capture and storage (CCS) process. It shows a cycle where CO₂ is used during photosynthesis by plants to create biofuel. Biofuel is then used in power plants, which release CO₂ emissions. One strategy is to capture these emissions and store them in the ocean. Another strategy is to use fossil fuels, which also release CO₂ emissions.

Fossil Fuels
Item #2

PISA 2015

Fossil Fuels

Question 214

Refer to "Fossil Fuels" on the right. Type your answers to the questions.

Despite the advantages of biofuels for the environment, fossil fuels are still widely used. The following table compares the energy and CO₂ released when petroleum and ethanol are burned. Petroleum is a fossil fuel, while ethanol is a biofuel.

Fuel Source	Energy Released (kJ of energy/g of fuel)	Carbon Dioxide Released (mg of CO ₂ /kJ of energy produced by the fuel)
Petroleum	43.6	78
Ethanol	27.3	59

According to the table, why might someone prefer using petroleum instead of ethanol, even if their cost is the same?

According to the table, what is an environmental advantage of using ethanol instead of petroleum?

FOSSIL FUELS

Many power plants burn carbon-based fuel and emit carbon dioxide (CO₂). CO₂ released into the atmosphere has a negative impact on global climate. Engineers have used different strategies to reduce the amount of CO₂ released into the atmosphere.

One such strategy is to burn biofuels instead of fossil fuels. While fossil fuels come from long-dead organisms, biofuel comes from plants that lived and died recently.

Another strategy involves trapping a portion of the CO₂ emitted by power plants and storing it deep underground or in the ocean. This strategy is called carbon capture and storage.



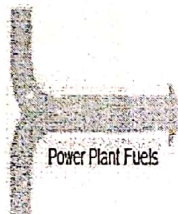
Biofuel



Released to Atmosphere



CO₂ Used During Photosynthesis



Power Plant Fuels



Power Plant CO₂ Emissions

Fossil Fuel



Stored in Ocean

Fossil Fuels
Item #3

PISA 2015



Fossil Fuels

Question 3 / 4

Refer to "Carbon Capture and Storage" on the right.
Type your answer to the question.

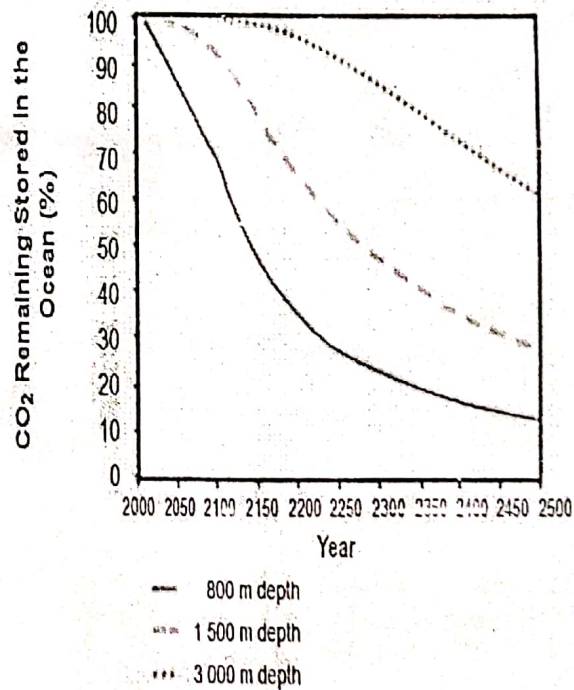
Use the data in the graph to explain how depth affects
the long-term effectiveness of storing CO₂ in the ocean.

FOSSIL FUELS

Carbon Capture and Storage

Carbon capture and storage involve trapping a portion of the CO₂ emitted by power plants and storing it where it cannot be released back into the atmosphere. One possible place to store the CO₂ is in the ocean, because the CO₂ dissolves in the water.

Scientists have developed a mathematical model to calculate the percentage of CO₂ that continues to remain stored after CO₂ is pumped into the ocean at three different depths (800 metres, 1 500 metres, and 3 000 metres). The model assumes that the CO₂ is pumped into the ocean in the year 2000. The graph below shows the results of this model.



Test item 3: Volcanic Eruptions

Unit Overview

This released unit focuses on the distribution pattern of volcanoes and the impact of volcanic eruptions on climate and the atmosphere. Stimulus materials include a map showing the location of volcanoes and earthquakes around the globe and graphs illustrating the impact that volcanic eruptions have on the amount of solar radiation that reaches Earth's surface and on carbon dioxide concentrations in the atmosphere.

Volcanic Eruptions

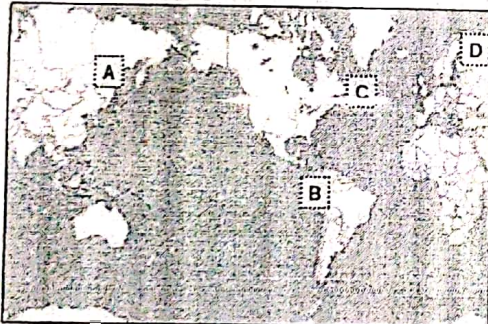
Item #1

PISA 2015

Volcanic Eruptions
Question 1/4

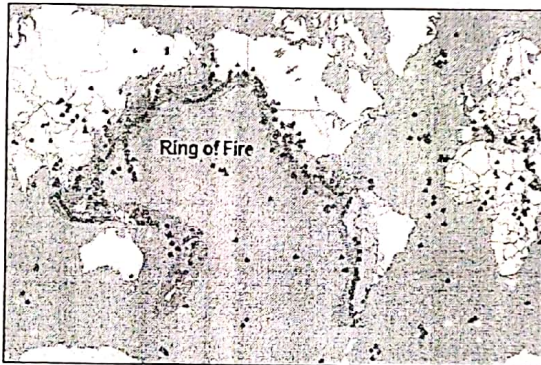
Refer to "Volcanic Eruptions" on the right. Click on a choice to answer the question.

Select the location on the map below that is least likely to experience volcanic activity or earthquakes.

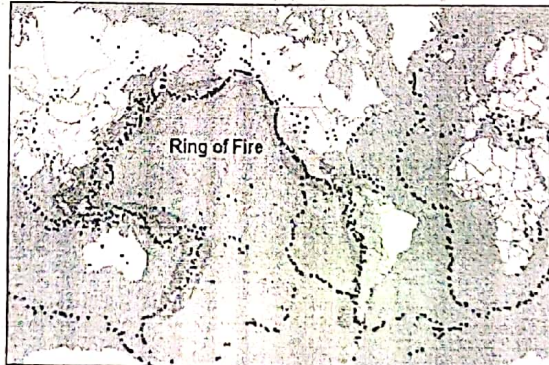


VOLCANIC ERUPTIONS

Volcanic eruptions and earthquakes affect people in many parts of the world. Map 1 shows the location of volcanoes. Map 2 shows the location of earthquakes. A region called the Ring of Fire is shown on both maps.



Map 1 - Volcanoes



Map 2 - Earthquakes

Volcanic Eruptions
Item #2

PISA 2015

Volcanic Eruptions
Question 3/4

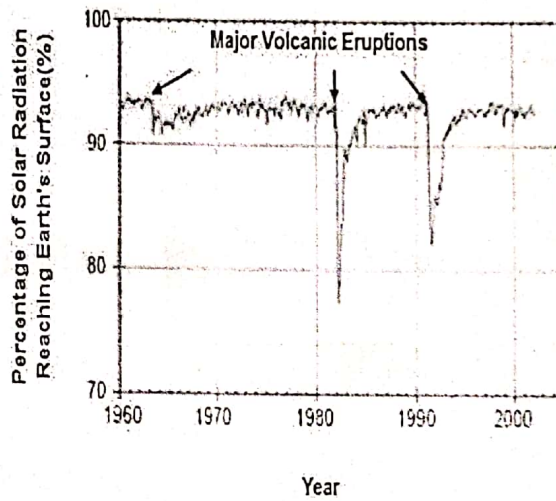
Refer to "Effects on Solar Radiation" on the right. Type your answer to the question.

Why does the percentage of solar radiation that reaches Earth's surface change after volcanic eruptions?

VOLCANIC ERUPTIONS
Effects on Solar Radiation

When volcanoes erupt, they emit volcanic ash and sulphur dioxide into the atmosphere. The graph below shows the effect that these emissions have on the amount of solar radiation that reaches Earth's surface.

Solar Radiation Reaching Earth's Surface Over Time



Volcanic Eruptions
Item #3

PISA 2015

Volcanic Eruptions

Question 4/4

Refer to "Atmospheric Carbon Dioxide" on the right. Click on a choice to answer the question.

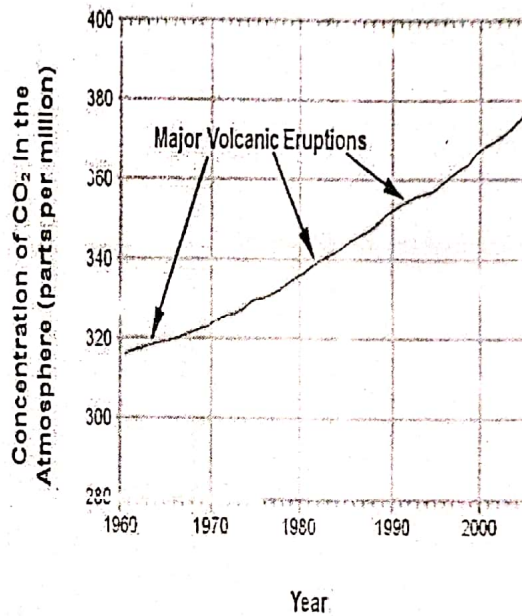
Based on the information provided, what effect do volcanic eruptions have on the concentration of carbon dioxide in the atmosphere?

- A major effect, because there have been many eruptions.
- A major effect, because each eruption ejects large amounts of material.
- A minor effect, because volcanoes release little CO₂ compared to other sources.
- A minor effect, because CO₂ levels in the atmosphere decrease during eruptions.

VOLCANIC ERUPTIONS
Atmospheric Carbon Dioxide

Volcanoes emit carbon dioxide (CO₂) during eruptions. The graph below shows atmospheric carbon dioxide concentrations that scientists have measured since 1960.

CO₂ in the Atmosphere Over Time



The table below shows the relative contribution of different sources to the carbon dioxide in the atmosphere.

Source	Contribution to CO ₂ in the Atmosphere
Volcanic emissions	< 1%
Human-caused emissions	20%
Plant respiration	40%
Microbial respiration and decomposition	40%



VII A

SST shift II

Learn and write the answers of questions, fill in the blanks, Match the column and True false in the note book of these chapters.

Hist → Chapter, 6, 7, 8

Civics - Chapter 6, 7, 8

Geo. ~~Geo~~ Chapter - 6, 7, 8.

Locate all the states with their capitals on the outline map of India.

CS

(SHIFT-II) So. SCIENCE HOLIDAY HOMEWORK

SHIFT-II) CLASS \rightarrow VII B WINTER VACATION SUB TEACHER = ARPANA MAM

HOLIDAY HOMEWORK

- Q1. Kolkata is located on the bank of which river?
- Q2. Who were alluans?
- Q3. In what ways is a howker different from a shop owner?
- Q4. Define media? In what ways do the media play an important role in a democracy?
- Q5. What are the four means of transportation? Mention any two methods of railway?
- Q6. What do you understand by the word brand? List two reasons why building brands is central to advertising?
- Q7. How did a temple communicate the importance of king? Explain it.
- Q8. In what ways the Banjaras were important for the economy in the past.
- Q9. What do you understand by the word "brand", give any two reasons why building brand is central to a advertising?
- Q10. What were the major beliefs and practices of the Sufis?
- Q11. Define media in what ways does the media play an important role in a democracy?
- Q12. What are the four means of transport? Mention any two merits of railways.
- Q13. In what ways is a howker different from a shop owner? Why do people go to quickly market? Give two reasons.
- Q14. In what ways the history of the gond is different from that of the ahoms? Were there any similarities?
- Q15. What is print media? State the responsibilities of media?
- Q16. Distinguish between - tropical evergreen and tropical deciduous forest.

- Q17 what are prairies? where are they found? why the prairies are known as granaries of the world?
- Q18 mention the uses of coniferous forest.
- Q19 who was swarna? why did she take a loan from a trader and what promise was made by her to trader?
- Q20 what is manipuralam? name the book written in the language?
- Q21 what are ocean current? name the different type of current?
- Q22 which are the major cities located on the river ganga?
- Q23 The prairies are known as the 'granaries' of the world 'why'?
- Q24 mosses and lichens are found in _____.
- Q25 which are the two factors on which the growth of vegetation mostly depends?
- Q26 what is the weekly market?
- Q27 why did people from distant lands visit dwarka?
- Q28 How was water supplied to the city of Thanjavur?
- Q29 which are the three broad categories of natural vegetation?
- Q30 steppe grassland is found in _____.
- Q31 what issue was the 'Swamatsyasang' (TMS) fighting for? why did the villagers set up this organization?
- Q32 what are the main features of the climate of the Sahara desert?
- Q33 what are the important architectural features of the temple of Bengal?
- Q34 where is the one-horned rhinoceros found?
- Q35 who is was Kabir?
- Q36 why are things cheap in the weekly market?

Date: _____

P. No: _____

Q37 what do aduurtis do?

Q38 Name the himalaya tribes.

Q39 what was the settlement?

Q40 how was the administration of the ahome state organised?

Q41 Distinguish between Compact & scattered settlement?

Q42 which mughal general attacked ahoms?

Q43 In which climatic condition, citrus fruits are cultivated.

Q44 Stepp grassland is found in _____

Q45 all means of communication are collectively referred to as _____

Q46. _____ means stamping a product with a particular name or sign.

Q47 _____ is the historical book written by the ahoms.

8th Class

English winter Break H.H.W.

A Story writing.

- ① Bad Company
- ② Two friends & a bear
- ③ Unity is strength
- ④ Practice makes a man perfect

B. Collage making

- a) Indian festivals
- b) Mahatma Gandhi
- c) B. R. Ambedkar
- d) My favourite game

c.

Write any two stories & write the moral too.

D. Read chapters & write exercises mentioned for P.T. II (both the books.)

E. Write Book review of a book issued from library.

शीतकालीन अवकाश
 हेतु गृहकार्य
 कक्षा - आठवी (द्वितीय पाली)
 विषय - हिन्दी

क) पाठ-॥ से पाठ-१४ तक के प्रश्नांतर

ख) आत्म दार - एक नव आत्म दार को
 पूर्णतया पढ़ें व उनके प्रमुख
 बिंदु / प्रश्नांतर याद करें।

ग) प्रत्येक के पांच-पांच उदाहरण लिखें।
 १. उपसर्ग

- २. प्रत्यय
- ३. समास — द्विगु व बहुवचन
- ४. अलंकार — पुनरुक्ति

घ) अनुच्छेद - लेखन

- १. नव नव / किसिमस पत्र
- २. केंद्रीय विद्यालय स्थापना दिवस

ड) दो आपचारिक पत्र तथा
 दो अनौपचारिक पत्र लिखें।

च) दो संवाद लेखन कीजिए।

(कु. प्र. ३)

शीतकालीन अवकाश गृहकार्यम्

J.P.
PAGE NO.:
DATE:

कक्षा - अष्टमी संस्कृतम्

1. संस्कृत प्रतिज्ञा, प्रार्थना एवं गीत लिखकर याद कीजिए।
2. सन्धि, कारक, उपसर्ग, प्रत्यय इत्यादि उपविधियों का समझकर याद कीजिए।
3. सावित्रीबाई फुले का जीवन परिचय हिन्दी में लिखिए।
4. सावित्रीबाई फुले, नीतिनवनीतम्, सप्तभागिन्यः पाठा का समझकर प्रश्नोत्तर याद कीजिए।
5. ललितक का जीवन में महत्त्व, उपयोग एवं दानि लिखिए (हिन्दी में)।
6. वारुडाक्षरी लिखिए के से अ तक। के, का, कि - का - - - ।
7. 05 पेज सुलभ लिखिए।

विद्यार्थी
र. क. वि. वि. वि.

MATHEMATICS

- 1 Add: $2p^2q^2 - 3pq + 4$ and $5 + 7pq - 3p^2q^2$
- 2 Subtract $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$ from $18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q$
- 3 Use Identity and find product (i) $(x+3)(x+3)$ (ii) $(6x-7)(6x+7)$ (iii) $(2x-y)(2x-y)$
- 4 Using Identity, evaluate: (i) 712 (ii) 297×303 (iii) $512 - 492$ (iv) 092
- 5 Show that $(p-q)(p+q) + (q-r)(q+r) + (r-p)(r+p) = 0$
- 6 Using suitable identity find the product $(6x-7)(6x+7)$.
- 7 Find the value of 102^2 using suitable identity.
- 8 Simplify $(7m-8n)^2 + (7m+8n)^2$
- 9 Find the product of $(2x+5)$ and $(4x-3)$
- 10 Simplify $3x(4x-5) + 3$.
- 11 Subtract $3a-3b+5c$ from $2b+4a-3c$.
- 12 Expand $(3x+5v)^2$
- 13 Find the value of 102^2 using suitable identity.
- 14 Simplify $(2x+5)(2x+3y)$.
- 15 Find the product using suitable identity : $(2y+5)(2y+5)$
- 16 Simplify: $(x^2-5)(x+5) + 25$
- 17 Using $a^2 - b^2 = (a+b)(a-b)$, find $52^2 - 48^2$
- 18 Simplify : $(2x+5)^2 - (2x-5)^2$
- 19 Using $(x+a)(x+b) = x^2 + (a+b)x + ab$, find 5.1×5.2
- 20 $(4pq+3q)^2 - (4pq-3q)^2 - 48pq^2$
- 21 If area of a circle π sq.cm, find its area
- 22 The diagonals of a rhombus are 7.5 cm and 12 cm find its area
- 23 A road takes 750 complete revolutions to move once over to level a road. Find area of the road if the diameter of a road roller is 84 cm and length is 1m
- 24 A milk tank is in the form of cylinder whose radius is 1.5 m and length is 7 m. Find the quantity of milk in litres that can be stored in the tank?
If cost of milk is Rs.40 per litre then find cost of milk also
- 25 A closed cylindrical tank of radius 7m and height 3m is made from a steel of metal. How much sheet of metal is required?
- 26 Find the height of cylinder whose volume is 15400 cm^3 and diameter of the base is 140cm.
- 27 Find the height of a cylinder whose radius is 7cm and the total surface area is 968 cm^2
- 28 Find the area of a rhombus whose diagonals are of length 10cm and 8.2cm.
- 29 The diagonals of a rhombus are 7 cm and 10 cm. Find its area.
- 30 Find the side of cube whose surface area is 600 cm^2 .
- 31 Find the height of cube whose base area is 180 cm^2 and volume is 900 m^3
- 32 Area of base of cylinder is 154 cm^2 , height is 10cm. Find its curved surface area and its volume.
- 33 Can a polyhedron have three faces?
- 34 How are prism and pyramids alike?
- 35 Verify Euler's formula



- 36 using Euler's formula find unknown

- 37 Can a polyhedron have 10 faces, 20 edges and 15 vertices?
- 38 Draw the front, top and side view of the object given.



- 39 Draw side view, front view and top view of "a car".
- 40 If a polyhedron has 5 faces, 9 edges then find number of its vertices.
- 41 Evaluate: (i) 3^{-2} (ii)
- 42 Simplify: (i) $(3^{-7})^{-2} \div 3^{-10} \times 3^{-5}$ (ii) $(\frac{1}{3})^{-2}$ $(\frac{1}{2})^{-1}$ $(\frac{1}{4})^{-1}$
- 43 Express the following in standard form: (i) 0.0000056 (ii) 34291.23 (iii) 5162
- 44 Express the following in usual form (i) 3.62×10^{-6} (ii) 4.5×10^8 (iii) 1.01×10^2
- 45 Find value of m if $7^m \div 7^{-4} = 7^{11}$
- 46 Simplify: $\frac{3^{-3} \times 10^{-3} \times 125}{5^{-7} \times 6^{-5}}$

- 47 Find the value of $\frac{25 X t^{-4}}{5^{-3} X 10 X t^{-8}}$

- 48 Express 0.000035 in standard form.
- 49 Express 7.54×10^4 in general form.
- 50 Express 0.000035 in standard form.
- 51 Evaluate $(3^{-1} + 4^{-1} + 5^{-1})^0$.
- 52 Evaluate $(5^{-1} \times 2^{-1}) \times 10^2$.
- 53 Find the value of m for which $5^m \times 5^{-3} = 5^5$.

HOLIDAY H.W (winter Break)

CLASS - VIII

SCIENCE

- ① Attempt 05 PISA test items (scientific literacy) given to you (photocopy given).
- ② Draw and practice the diagrams -
 - (a) Page - 101.
Fig. - 9.1, 9.2, 9.3.
 - (b) Page - 102
Fig. - 9.5
 - (c) Page 106.
Fig. - 9.10, 9.11, 9.12
 - (d) Flow chart
Page - 117, 119.
- ③ Prepare a list of famous Indian musicians and the instruments they play. Note the part which vibrates in them.
- ④ Page - 110.
Q. 5, 6, 9.
- ⑤ Page - 124
Q. 3, 6, 8.
- ⑥ Page - 169.
Q. 5, 10, 7.

THIRD ROUND OF TEST ITEMS

SCIENTIFIC LITERACY

Test Item 1: Bee Colony Collapse Disorder

Unit Overview

This released unit deals with the phenomenon known as bee colony collapse disorder. The stimulus materials include a short text introducing the phenomenon and a graph showing results of a study investigating the relationship between the insecticide imidacloprid and bee colony collapse disorder.

**Bee Colony Collapse Disorder
Item #1**

PISA 2015

Bee Colony Collapse Disorder
Question 115

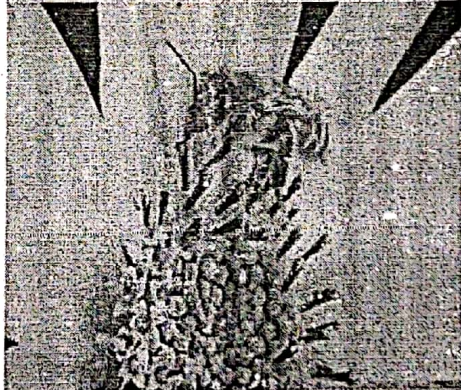
Refer to "Bee Colony Collapse Disorder" on the right.
Type your answer to the question.

Understanding colony collapse disorder is important for people who keep and study bees, but colony collapse disorder also has an effect beyond the bees. People who study birds have identified an impact. The sunflower is a food source for both bees and certain birds. Bees feed on the nectar of the sunflower, while the birds feed on the seeds.

Given this relationship, why might the disappearance of bees result in a decline in the bird population?

BEE COLONY COLLAPSE DISORDER:

An alarming phenomenon is threatening bee colonies around the world. This phenomenon is called colony collapse disorder. Colony collapse occurs when bees abandon the beehive. Separated from the hive, the bees die, so colony collapse disorder has caused the death of tens of billions of bees. Researchers believe that there are a number of causes for colony collapse.



PISA 2015

Bee Colony Collapse Disorder

Question 215

Refer to "Exposure to Imidacloprid" on the right. Select from the drop-down menus to complete the sentence.

Describe the researchers' experiment by completing the following sentence.

The researchers tested the effect of

Select on

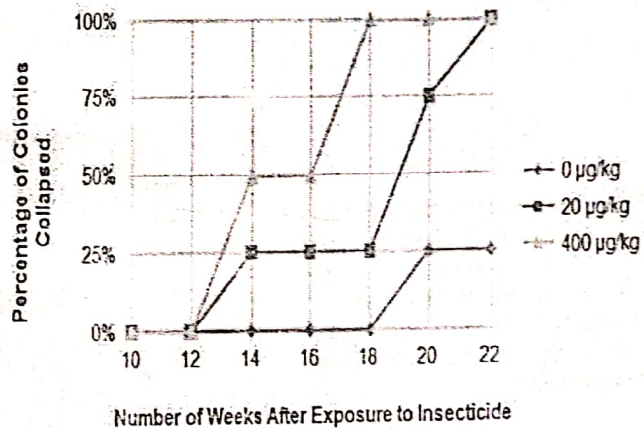
Select

BEE COLONY COLLAPSE DISORDER
Exposure to Imidacloprid

Scientists believe that there are multiple causes for colony collapse disorder. One possible cause is the insecticide imidacloprid, which may cause bees to lose their sense of orientation when outside the hive.

Researchers tested whether exposure to imidacloprid leads to colony collapse. In a number of hives, they added the insecticide to the bees' food for three weeks. Different hives were exposed to different concentrations of the insecticide, measured in micrograms of insecticide per kilogram of food ($\mu\text{g}/\text{kg}$). Some hives were not exposed to any insecticide.

None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Students are asked to select from among three options in each drop-down menu. Those options include:

1. collapse of bee colonies
2. concentration of imidacloprid in food
3. bee immunity to imidacloprid

PISA 2015

Bee Colony Collapse Disorder
Question 3/5

Refer to "Exposure to Imidacloprid" on the right. Click on a choice to answer the question.

Which one of the following conclusions matches the results shown in the graph?

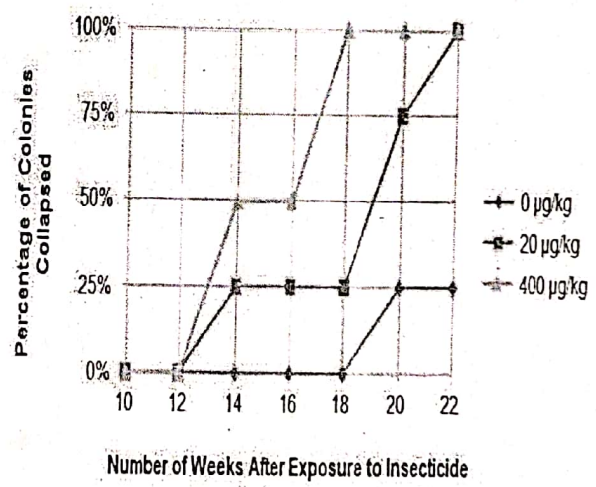
- Colonies exposed to a higher concentration of imidacloprid tend to collapse sooner.
- Colonies exposed to imidacloprid collapse within 10 weeks of exposure.
- Exposure to imidacloprid at concentrations below 20 µg/kg does not harm colonies.
- Colonies exposed to imidacloprid cannot survive for more than 14 weeks.

BEE COLONY COLLAPSE DISORDER
Exposure to Imidacloprid

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None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Bee Colony Collapse Disorder
Item #4

PISA 2015

Bee Colony Collapse Disorder
Question 415

Refer to "Exposure to Imidacloprid" on the right. Type your answer to the question.

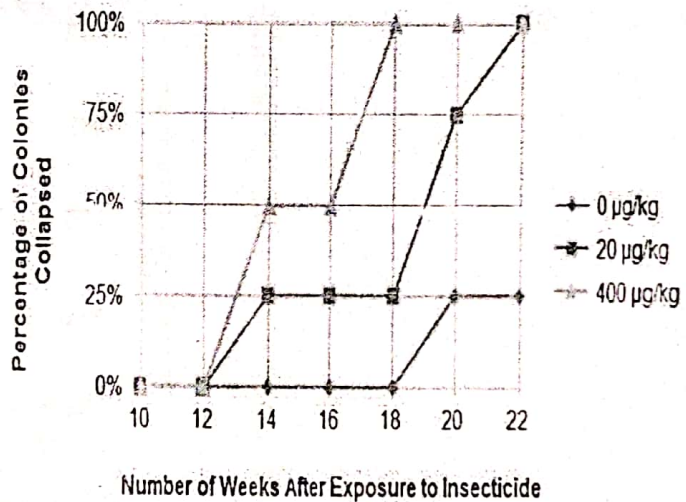
Look at the result in week 20 for the hives that the researchers did not expose to imidacloprid (0 µg/kg). What does it indicate about causes of collapse among the studied colonies?

BEE COLONY COLLAPSE DISORDER
Exposure to Imidacloprid

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Researchers tested whether exposure to imidacloprid leads to colony collapse. In a number of hives, they added the insecticide to the bees' food for three weeks. Different hives were exposed to different concentrations of the insecticide, measured in micrograms of insecticide per kilogram of food (µg/kg). Some hives were not exposed to any insecticide.

None of the colonies collapsed immediately after exposure to the insecticide. However, by week 14, some of the hives had been abandoned. The following graph records the observed results:



Bee Colony Collapse Disorder
Item #5

PISA 2015



Bee Colony Collapse Disorder
Question 5/5

Click on a choice to answer the question

Scientists have proposed two additional causes for colony collapse disorder:

- A virus that infects and kills the bees.
- A parasitic fly that lays its eggs in the abdomen of the bees.

Which of the following findings supports the claim that bees die because of a virus?

- Eggs of another organism were found in hives.
- Insecticides were found inside the bees' cells.
- Non-bee DNA was found inside the bees' cells.
- Dead bees were found in hives.

Test Item 2: Fossil Fuels

Unit Overview

This released unit explores the relationship between the burning of fossil fuels and CO₂ levels in the atmosphere. The stimulus material includes a diagram illustrating how carbon cycles in the environment and a short text describing strategies for reducing the amount of CO₂ released into the atmosphere, a table comparing the characteristics of ethanol and petroleum when used as fuel, and a graph illustrating the results of a mathematical model that calculates carbon capture and storage at three different ocean depths.

Fossil Fuels

Item #1

PISA 2015

Fossil Fuels
Question 114

Refer to "Fossil Fuels" on the right. Click on a choice to answer the question.

Using biofuels does not have the same effect on atmospheric levels of CO₂ as using fossil fuels. Which of the statements below best explains why?

- Biofuels do not release CO₂ when they burn.
- Plants used for biofuels absorb CO₂ from the atmosphere as they grow.
- As they burn, biofuels take in CO₂ from the atmosphere.
- The CO₂ released by power plants using biofuels has different chemical properties than that released by power plants using fossil fuels.

FOSSIL FUELS

Many power plants burn carbon-based fuel and emit carbon dioxide (CO₂). CO₂ released into the atmosphere has a negative impact on global climate. Engineers have used different strategies to reduce the amount of CO₂ released into the atmosphere.

One such strategy is to burn biofuels instead of fossil fuels. While fossil fuels come from long-dead organisms, biofuel comes from plants that lived and died recently.

Another strategy involves trapping a portion of the CO₂ emitted by power plants and storing it deep underground or in the ocean. This strategy is called carbon capture and storage.

The diagram illustrates the carbon cycle. On the left, a field of crops is labeled 'Biofuel'. An arrow labeled 'CO₂ Used During Photosynthesis' points from the atmosphere to the crops. On the right, a landscape with a cloudy sky is labeled 'Released to Atmosphere'. Below this, a power plant is shown with an arrow labeled 'Power Plant Fuels' pointing to it from the left. Another arrow labeled 'Power Plant CO₂ Emissions' points from the power plant to the right. Below this, an arrow labeled 'Stored in Ocean' points to an image of the ocean.

PISA 2015

Fossil Fuels
Question 214

Refer to "Fossil Fuels" on the right. Type your answers to the questions.

Despite the advantages of biofuels for the environment, fossil fuels are still widely used. The following table compares the energy and CO₂ released when petroleum and ethanol are burned. Petroleum is a fossil fuel, while ethanol is a biofuel.

Fuel Source	Energy Released (kJ of energy/g of fuel)	Carbon Dioxide Released (mg of CO ₂ /kJ of energy produced by the fuel)
Petroleum	43.6	78
Ethanol	27.3	59

According to the table, why might someone prefer using petroleum instead of ethanol, even if their cost is the same?


According to the table, what is an environmental advantage of using ethanol instead of petroleum?

FOSSIL FUELS

Many power plants burn carbon-based fuel and emit carbon dioxide (CO₂). CO₂ released into the atmosphere has a negative impact on global climate. Engineers have used different strategies to reduce the amount of CO₂ released into the atmosphere.


One such strategy is to burn biofuels instead of fossil fuels. While fossil fuels come from long-dead organisms, biofuel comes from plants that lived and died recently.

Another strategy involves trapping a portion of the CO₂ emitted by power plants and storing it deep underground or in the ocean. This strategy is called carbon capture and storage.




Biofuel


← CO₂ Used During Photosynthesis




Released to Atmosphere



Fossil Fuel



Power Plant CO₂ Emissions



Stored in Ocean

Fossil Fuels
Item #3

PISA 2015

Fossil Fuels

Question 3/4

Refer to "Carbon Capture and Storage" on the right.
Type your answer to the question.

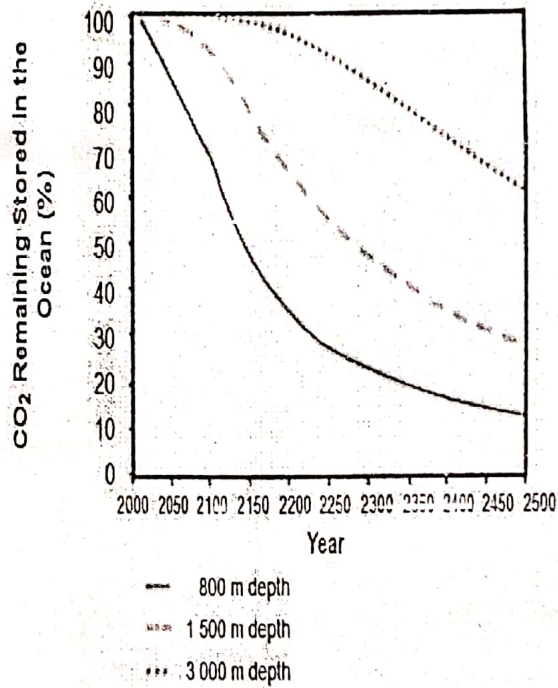
Use the data in the graph to explain how depth affects
the long-term effectiveness of storing CO₂ in the ocean.

FOSSIL FUELS

Carbon Capture and Storage

Carbon capture and storage involve trapping a portion of the CO₂ emitted by power plants and storing it where it cannot be released back into the atmosphere. One possible place to store the CO₂ is in the ocean, because the CO₂ dissolves in the water.

Scientists have developed a mathematical model to calculate the percentage of CO₂ that continues to remain stored after CO₂ is pumped into the ocean at three different depths (800 metres, 1 500 metres, and 3 000 metres). The model assumes that the CO₂ is pumped into the ocean in the year 2000. The graph below shows the results of this model.



Test item 3: Volcanic Eruptions

Unit Overview

This released unit focuses on the distribution pattern of volcanoes and the impact of volcanic eruptions on climate and the atmosphere. Stimulus materials include a map showing the location of volcanoes and earthquakes around the globe and graphs illustrating the impact that volcanic eruptions have on the amount of solar radiation that reaches Earth's surface and on carbon dioxide concentrations in the atmosphere.

Volcanic Eruptions

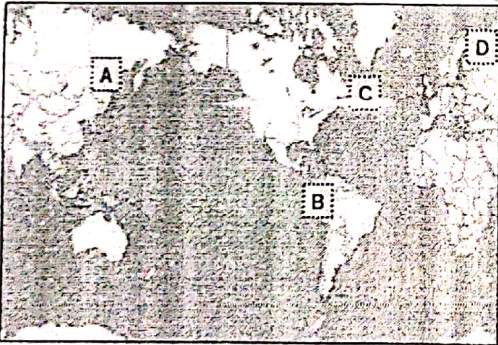
Item #1

PISA 2015

Volcanic Eruptions
Question 1/4

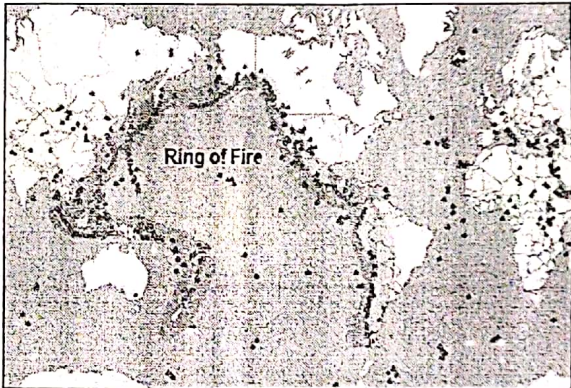
Refer to "Volcanic Eruptions" on the right. Click on a choice to answer the question.

Select the location on the map below that is least likely to experience volcanic activity or earthquakes.

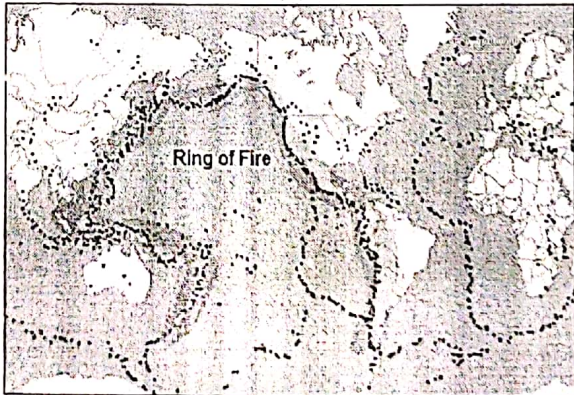


VOLCANIC ERUPTIONS

Volcanic eruptions and earthquakes affect people in many parts of the world. Map 1 shows the location of volcanoes. Map 2 shows the location of earthquakes. A region called the Ring of Fire is shown on both maps.



Map 1 - Volcanoes



Map 2 - Earthquakes

Volcanic Eruptions
Item #2

PISA 2015

Volcanic Eruptions

Question 3/4

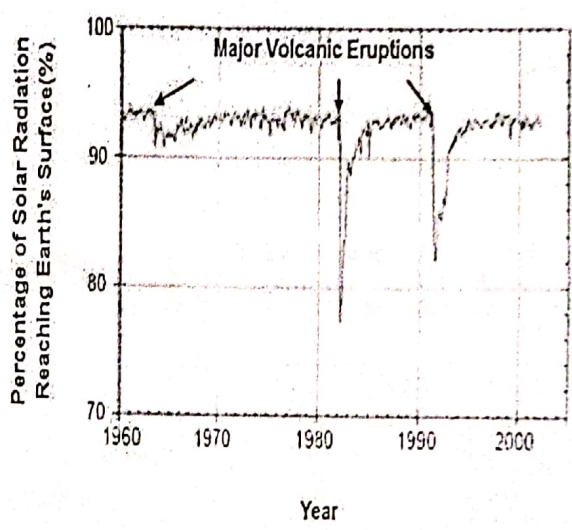
Refer to "Effects on Solar Radiation" on the right. Type your answer to the question.

Why does the percentage of solar radiation that reaches Earth's surface change after volcanic eruptions?

VOLCANIC ERUPTIONS
Effects on Solar Radiation

When volcanoes erupt, they emit volcanic ash and sulphur dioxide into the atmosphere. The graph below shows the effect that these emissions have on the amount of solar radiation that reaches Earth's surface.

Solar Radiation Reaching Earth's Surface Over Time



Volcanic Eruptions

Item #3

PISA 2015

Volcanic Eruptions

Question 4/4

Refer to "Atmospheric Carbon Dioxide" on the right. Click on a choice to answer the question.

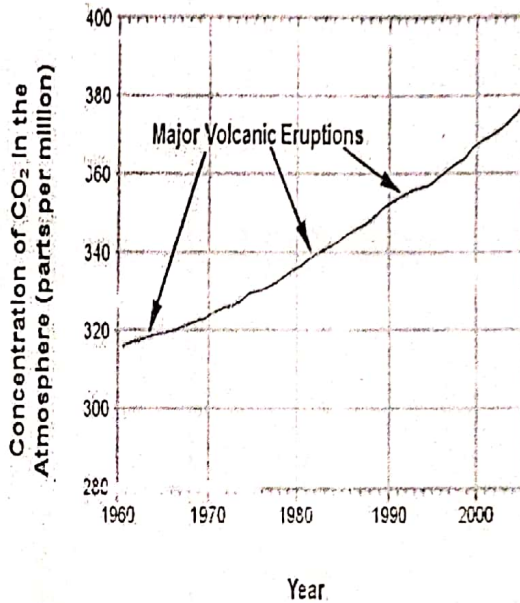
Based on the information provided, what effect do volcanic eruptions have on the concentration of carbon dioxide in the atmosphere?

- A major effect, because there have been many eruptions.
- A major effect, because each eruption ejects large amounts of material.
- A minor effect, because volcanoes release little CO₂ compared to other sources.
- A minor effect, because CO₂ levels in the atmosphere decrease during eruptions.

VOLCANIC ERUPTIONS
Atmospheric Carbon Dioxide

Volcanoes emit carbon dioxide (CO₂) during eruptions. The graph below shows atmospheric carbon dioxide concentrations that scientists have measured since 1960.

CO₂ in the Atmosphere Over Time



The table below shows the relative contribution of different sources to the carbon dioxide in the atmosphere.

Source	Contribution to CO ₂ in the Atmosphere
Volcanic emissions	< 1%
Human-caused emissions	20%
Plant respiration	40%
Microbial respiration and decomposition	40%



Test Item 4: Groundwater Extraction and Earthquakes

Unit Overview

This unit focuses on natural and human processes that may lead to earthquakes. The stimulus materials include a text and graphic illustrating the relationship of faults to earthquakes, a map showing levels of stress in one region of Earth, and a short text about an earthquake believed to have been caused by groundwater extraction.

Groundwater Extraction and Earthquakes

Item #1

PISA 2015

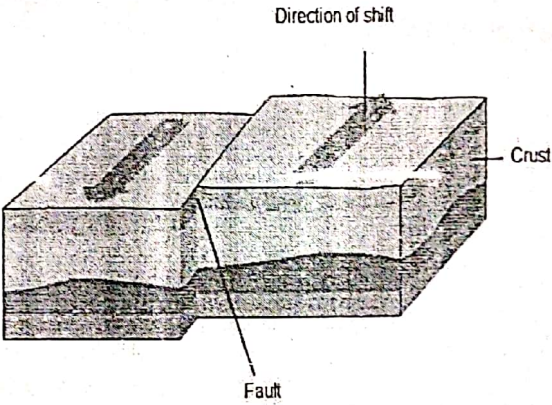
Groundwater Extraction and Earthquakes
Question 1/4

Refer to "Groundwater Extraction and Earthquakes" on the right. Type your answer to the question.

Stress builds up naturally at faults. Why does this happen?

GROUNDWATER EXTRACTION AND EARTHQUAKES

The rocky crust is the uppermost layer of Earth. The crust is broken up into tectonic plates that ride on a layer of rock that is partially melted. The plates contain breaks called faults. Earthquakes happen when stress accumulated along the fault is released, causing parts of the crust to shift. An example of a shift along a fault is shown below.



Groundwater Extraction and Earthquakes
Item #2

PISA 2015



Groundwater Extraction and Earthquakes

Question 2/4

Refer to "Stress in Earth's Crust" on the right. Use drag and drop to answer the question.

The map on the right shows the levels of stress in Earth's crust in a region. Four locations within the region are identified as A, B, C, and D. Each location is on or near a fault that runs through the region.

Put the locations in order from lowest risk to highest risk of earthquake.

A B C D

Highest risk:



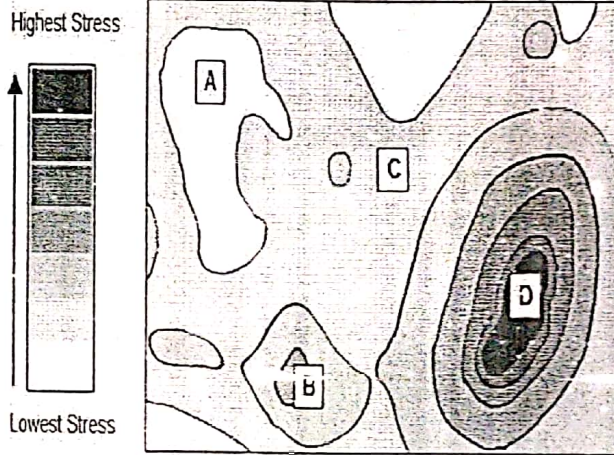
Lowest risk:



GROUNDWATER EXTRACTION AND EARTHQUAKES

Stress in Earth's Crust

Levels of Stress in Earth's Crust



Groundwater Extraction and Earthquakes
Item #3

PISA 2015

Groundwater Extraction and Earthquakes

Question 3/4

Refer to "The 2011 Earthquake In Lorca" on the right.
Click on a choice to answer the question.

Which observation supports the geologists' hypothesis?

- The earthquake was felt many kilometres away from Lorca.
- Movement along the fault was greatest in areas where the pumping created the greatest stress.
- Lorca has had earthquakes that were of greater magnitude than the May 2011 earthquake.
- The earthquake was followed by a number of smaller earthquakes felt in the region around Lorca.

GROUNDWATER EXTRACTION AND EARTHQUAKES

The 2011 Earthquake In Lorca

Lorca, Spain, is located in a region that experiences earthquakes relatively often. One earthquake occurred in Lorca in May 2011. Geologists believe that unlike previous earthquakes in the region, this earthquake may have been caused in part by human activity, specifically by the pumping of groundwater. According to the geologists' hypothesis, extracting water from underground contributed to stress on a nearby fault, which triggered a shift that resulted in the earthquake.

Groundwater Extraction and Earthquakes
Item #4

PISA 2015



Groundwater Extraction and Earthquakes

Question 4 / 4

Refer to "The 2011 Earthquake In Lorca" on the right.
Click on one or more boxes to answer the question.

A student who lives in a town in a region far from Lorca learns about the geologists' hypothesis about the 2011 earthquake in Lorca. The student knows that groundwater extraction in the region where he lives has led to a decline in the groundwater level. He is concerned about the possibility of earthquakes in his town. Which of the following questions should the student consider in evaluating the risk that groundwater extraction will trigger an earthquake in his town?

✓ Remember to select one or more boxes.

- Does the crust in the region contain faults?
- Is the crust in the region subject to stress from natural causes?
- Is water pumped from the ground in the region polluted?
- What are the average daily temperatures in the region?

GROUNDWATER EXTRACTION AND EARTHQUAKES

The 2011 Earthquake In Lorca

Lorca, Spain, is located in a region that experiences earthquakes relatively often. One earthquake occurred in Lorca in May 2011. Geologists believe that unlike previous earthquakes in the region, this earthquake may have been caused in part by human activity, specifically by the pumping of groundwater. According to the geologists' hypothesis, extracting water from underground contributed to stress on a nearby fault, which triggered a shift that resulted in the earthquake.

Test Item 5: Blue Power Plant

Unit Overview

This released unit focuses on a power plant that uses the differences in the salt concentration between salt water and fresh water to generate electricity. The stimulus includes text describing this process and an animation showing the movement of water through the plant and the movement of water molecules across a semi permeable membrane.

PISA 2015 ? ◀ ▶

Blue Power Plant
Introduction

Read the introduction. Then click on the NEXT arrow

This animation shows a new kind of power plant that is located where a freshwater river and water from the ocean meet. The power plant uses the differences in the salt concentrations in the two bodies of water to produce electricity. In the power plant, fresh water from the river is pumped through a pipe into one container. Salt water from the ocean is pumped into another container. The two containers are separated by a membrane that allows only water molecules to move through it.

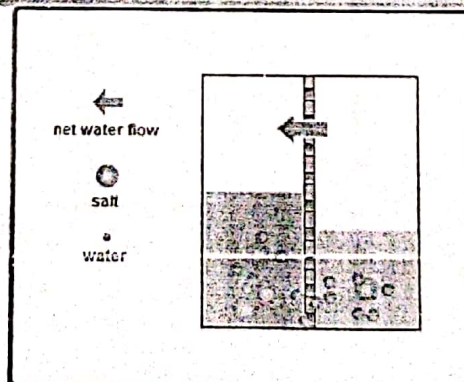
Water molecules naturally move through the membrane from the container of low salt concentration to the container of high salt concentration. This increases the volume and pressure of the water in the container of salt water.

Click on the magnifying glass to observe this movement of water molecules.

The high pressure water in the salt water container then flows through a pipe, moving a turbine to generate electricity.

BLUE POWER PLANT

The diagram illustrates the process in four numbered steps: 1. Fresh water from the river is pumped into a container. 2. Salt water from the ocean is pumped into a second container. 3. A semi-permeable membrane separates the two containers, allowing water molecules to move from the fresh water side to the salt water side. 4. The increased pressure in the salt water container forces water through a pipe to turn a turbine, generating electricity.



Blue Power Plant
Item #1

PISA 2015

Blue Power Plant

Question 1/4

Refer to "Blue Power Plant" on the right. Click on one or more boxes to answer the question.

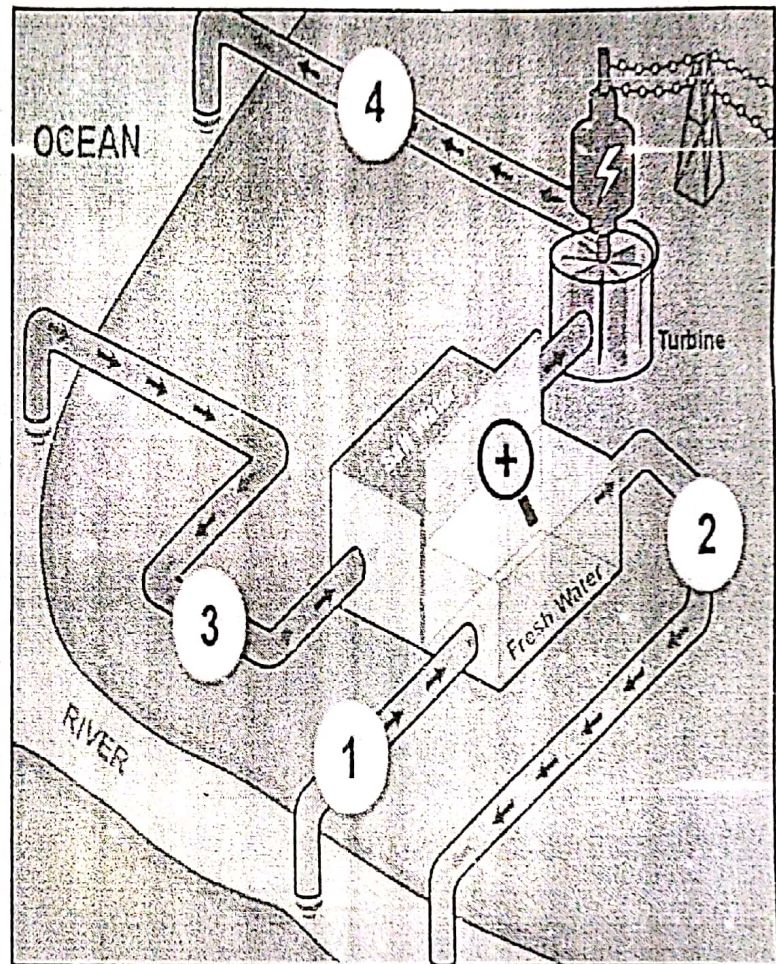
Four locations in the power plant have been numbered. Water is pumped from the river to location 1, marked on the screen.

✓ Remember to select one or more boxes.

In which locations could water molecules that come from the river be found later in the process?

- Location 2
 Location 3
 Location 4

Blue Power Plant



Blue Power Plant
Item #2

PISA 2015

Blue Power Plant
Question 2 / 4

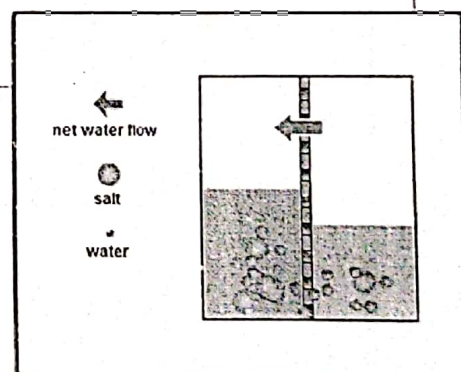
Click on the magnifying glass to see what happens to the water molecules and dissolved salt in the containers. Select from the drop-down menus to complete the sentence.

River water has a low concentration of salt. As the molecules move through the membrane, the salt concentration in the container of fresh water

Select and the salt concentration in the container of salt water Select

Blue Power Plant

The diagram illustrates a blue power plant system. It features an Ocean on the left and a River on the right. A central container is divided into two sections: 'Fresh Water' and 'Salt Water'. A turbine is connected to the system, with a power line leading to a power plant icon. Four numbered points (1, 2, 3, 4) are marked on the pipes and containers. A magnifying glass is positioned over the 'Fresh Water' container. The system is designed to generate power by exploiting the difference in salt concentration between the river water and the salt water.



Students are to determine the effect the movement of water across the membrane on the salt concentration of the fresh water and the salt water.

Both dropdown boxes have options increases & decreases. Student has to choose which correct option from each dropdown box.

Blue Power Plant

Item #3

PISA 2015

Blue Power Plant
Question 3 / 4

Refer to "Blue Power Plant" on the right. Select from the drop-down menus to answer the question.

Several energy conversions occur within the power plant. What kind of energy conversion occurs in the turbine and generator?

The turbine and generator convert

Select to Select

Blue Power Plant

The diagram illustrates a power plant system with two turbines and generators. The first turbine and generator (labeled 1) are connected to a power line and are situated between a RIVER and the OCEAN. Water flows from the RIVER through this turbine and generator to the OCEAN (labeled 2). The second turbine and generator (labeled 3) are also connected to a power line and are situated between the OCEAN and the RIVER. Water flows from the OCEAN through this turbine and generator to the RIVER (labeled 4). The diagram is labeled 'Blue Power Plant' and 'Turbine'.

Each drop-down menu in this item lists four types of energy: gravitational, potential, kinetic and

Blue Power Plant
Item #4

PISA 2015

Blue Power Plant

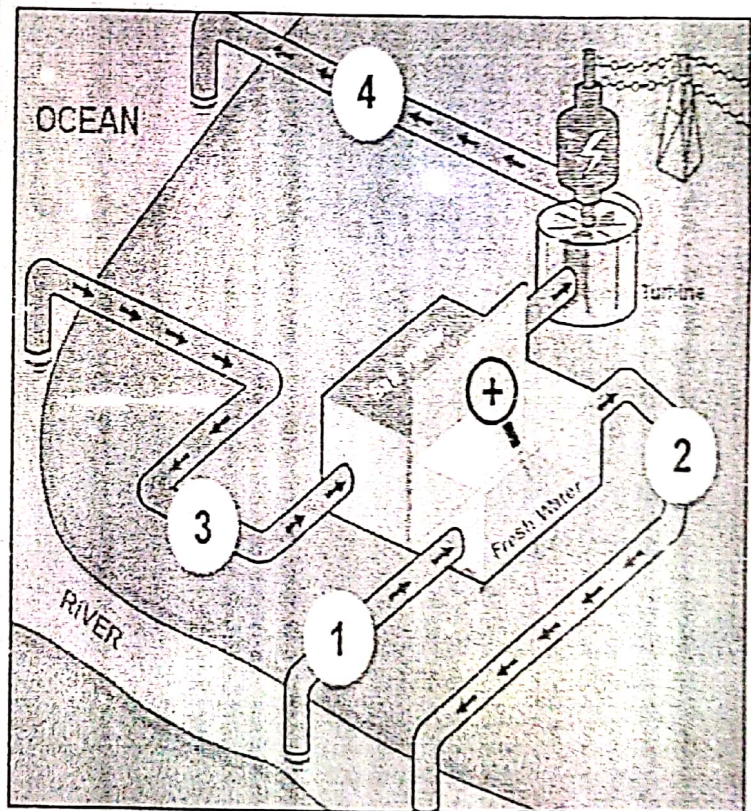
Question 4/4

Refer to "Blue Power Plant" on the right. Type your answer to the question.

Many electric power plants use fossil fuels, such as oil and coal, as their energy source.

Why is this new power plant considered to be more environmentally friendly than power plants that use fossil fuels?

Blue Power Plant



Holiday H.W. For winter Break.
2019-20.

Class - VIII A Social Study

Write the detail of. Bills introduced by
Lok Sabha / Rajya Sabha During 2018-19
Triple talag, Article 370, CAB, etc.

VIII B

S. St. Shift II

Learn and write the answers of the questions given in exercise of these chapters.

History → chapter 7 weavers, Iron smelters and Factory owner.


chapter - 8 - Civilising the "Native" Educating the nation

Chapter - 9 Women Caste and Reform

Civics - chapter - 5, 6, 7, 8

Geo - chapter - 5 (Industries)

Locate all the states on the outline map of India with their capitals.



9th class

English winter Break H.H.W

A Develop the following stories and write the morals too.

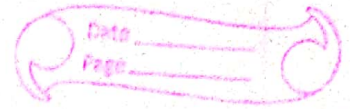
- a) Gulliver & the lilliputians
- b) Story from Mahabharata that impressed you most.
- c) Rohan was a hard working boy. He wanted to become a doctor. But his family's financial condition was not so good.....
- d) Pied piper & the children
- e) Helen Keller.

collage making:

- a) Santosh Yadav
- b) Maria Sharapov
- c) Albert Einstein

Study for chapters for P.T.3.

कक्षा नवीं द्वितीय पाली



हिन्दी

शीतकालीन अवकाश हेतु गृहकार्य व पाठ्यक्रम

क्षितिज: पाठ 6 से 7 तक के प्रश्नोत्तर याद करें।

काल्य खंड - 14 से 17 तक प्रश्नोत्तर याद करें।

कृतिका - रीढ़ की हड्डी, माटी वाली के प्रश्नोत्तर याद करें।

पाँच-पाँच उदाहरण लिखें - उपसर्ग, प्रत्यय, अलंकार (अनुप्रास, यमक, श्लेष)।

समास : सभी समास के उदाहरण लिखें।

नववर्ष / क्रिसमस / मकर संक्रांति / होली हेतु शुभकामना पत्र लिखें।

शीतकालीन भ्रमण / विद्यालय की पिकनिक / विस्थापन की समस्या पर अनुच्छेद लिखें।

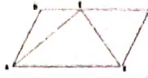
कोई तीन संवाद लिखें।

MATHEMATICS

- 1 If E, F, G and H are respectively the mid-points of the sides of a parallelogram ABCD, show that $ar(EFGH) = \frac{1}{2}ar(ABCD)$
- 2 In the figure, ABC and ABD are two triangles on the same base AB. If the line segment CD is bisected by AB at O, show that $ar(ABC) = ar(ABD)$



- 3 In given figure ABCD is a parallelogram with $AB \parallel CD$. If area of parallelogram is 72 cm^2 then find area of $(\triangle ABE)$



- 4 D, E, F are respectively mid points of side BC, CA, and AB of $\triangle ABC$ respectively then show that $ar(\triangle DEF) = \frac{1}{4}ar(\triangle ABC)$

- 5 Prove that "Parallelograms lies on same base and same parallel are equal in area"

- 6 In the figure A, B, C and D are four points on a circle. AC and BD intersect at a point E such that $\angle BEC = 130^\circ$ and $\angle ECD = 20^\circ$. Find $\angle BAC$.

- 7 In the given figure, $\angle ABC = 75^\circ$. Find $\angle ADC$



- 8 If diagonals of a cyclic quadrilateral are diameters of the circle through the vertices of the quadrilateral, prove that it is a rectangle.

- 9 O is the centre of the circle. If chord $AB =$ chord CD , then find x



- 10 O is the centre of the circle; AB is a chord of the circle. $OM \perp AB$. If $AB = 20 \text{ cm}$, $OM = 2\sqrt{3} \text{ cm}$, then the radius of the circle is

- 11 If O is the centre of the circle, then angle $\angle ACB = 35^\circ$, Then find x

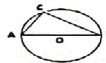


- 12 If a line intersects two concentric circle with the centre O at A, B, C and D, prove that $AB = CD$.



- 13 Prove that a cyclic parallelogram is a rectangle.

- 14 AB is a diameter and $\angle ABC = 30^\circ$, then find $\angle CAB$



- 15 Find $\angle BCD$



- 16 Prove that "Angles subtend by an arc at the centre is double of angle subtended by same arc at any point of remaining part of circle"

- 17 Construct $\triangle ABC$ in which $\angle B = 60^\circ$, $\angle C = 90^\circ$ and $AB + BC + AC = 11 \text{ cm}$.

- 18 Construct a triangle ABC in which $BC = 7 \text{ cm}$, $\angle B = 60^\circ$ and $AB + AC = 13 \text{ cm}$

- 19 Construct an angle of 75° and bisect it with the help of ruler and compass

- 20 Construct a $\triangle PQR$ in which $QR = 7 \text{ cm}$, $\angle Q = 60^\circ$ and $PQ + RP = 10 \text{ cm}$

- 21 Construct a $\triangle XYZ$ in which $\angle Y = 30^\circ$, $\angle Z = 60^\circ$ and $XY + YZ + ZX = 11 \text{ cm}$

- 22 A rhombus shaped field has green grass for 18 cows to graze. If each side of the rhombus is 30m and its longer diagonal is 48 m, how much area of grass field will each cow be getting?

- 23 Find the area of a triangle two sides of which are 18cm and 10cm and the perimeter is 42cm.

- 24 Find area of triangle ABC



- 25 Find the area of an equilateral triangle of side 'a' using Heron's formula.

- 26 Convert 7000 cm^2 into m^2

- 27 The sides of a triangular plot are in the ratio of 3:5:7 and its perimeter is 300m. Find its area.

- 28 If length of side of an equilateral triangle is $4\sqrt{3} \text{ cm}$ then find its area

- 29 A field is in the shape of a trapezium whose parallel sides are 25m and 10m. and non parallel sides are 14 cm and 13 cm. Find area of the field

- 30 A metal pipe is 77cm long. The inner diameter of a cross section is 4cm, the outer diameter being 4.4cm. Find its

- i) Inner curved surface area ii) Outer curved surface area iii) Total surface area. ($\pi = \frac{22}{7}$)

- 31 A lead pencil consists of a cylinder of wood with a solid cylinder of graphite filled in the interior.

- The diameter of the pencil is 7mm and the diameter of the graphite is 1mm. If the length of the pencil is 14cm, find the volume of the wood and that of the graphite. ($\pi = \frac{22}{7}$)

- 32 A soft drink is available in two packs-(i) a tin can with a rectangular base of length 5cm and width 4cm, having a height of 15cm and (ii) a plastic cylinder with circular base of diameter 7cm and height 10cm. Which container has greater capacity and by how much? ($\pi = \frac{22}{7}$)

- 33 Find total surface area of a cube of side 4cm

- 34 Find lateral surface area of a cuboid of size $8 \text{ cm} \times 6 \text{ cm} \times 5 \text{ cm}$

- 35 The length, breadth and height of a room are 5m, 4m and 3m respectively. Find the cost of white washing the walls of the room and the ceiling at the rate of Rs2.50

- 36 A small indoor green house (herbarium) is made entirely of glass panes held together with tape. It is 30cm long, 25cm wide and 25cm high. i) What is the area of the glass?

- 37 Find volume of a right circular cylinder with radius 6 cm and height is 7 cm.

- 38 If diameter of a metallic ball is 4.2cm, what is mass of the ball if density of the metal is 2.5g per cubic cm

- 39 A hemispherical bowl made of iron has inner radius is 14 cm. Find cost polishing of inner surface of bowl at the rate RS. 10 per 100 cm^2

- 40 If $\triangle ABC$ with sides 12cm, 5cm and 13cm revolved about 12cm side. Find volume and CSA of cone which generated by revolution.


Class ix

Winter vacation Homework (PHYSICS)

1. Define 1 joule of work.
2. Derive an expression for Kinetic energy formula.
3. Calculate the work done by the brakes of a car of mass 100kg when its speed is reduced from 20m/s to 10m/s?
4. State law of conservation of energy. Write at least two examples.
5. Write the differences between compression and rarefaction.
6. Explain the various characteristics of sound.
7. Sound waves travel with a speed of about 330m/s. What is the wavelength of sound whose frequency is 550 Hertz?

Class IX (Science)

- i) Revision for Atoms and Molecule, Atomic structure for PT-3
- ii) Exercise of Atomic Structure and In-text Question in Home work Copy.
- iii) Revision of Chapter 1 to 4 of Science.


V. Patil
PPT Chem.

WINTER BREAK HOME WORK FOR CLASS 9TH 2019 Subject-Science (Biology)

- 01-Find out some HYV of following crops-Wheat, Maize, Pigeon Pea and chick pea Ground nut Soybean.
- 02-Surf on internet and note HYV of Mango, Guava Coconut. Apple ,Pomegranet, Zuzuba.
- 03-Enlist certain GM Crops grown in India.
- 04-Complete the class work up to Improvement of food resources.(In text and exercise Questions)

- 1) What is Shifting cultivation.
- 2) Where is Jim Corbett National Park.
- 3) What is the term of Rajya Sabha.
- 4) What is AAY?
- 5) What is the difference between deciduous forest and evergreen forest?
- 6) What is scientific forestry?
- 7) What does natural vegetation mean?
- 8) How is the Prime Minister appointed?
- 9) Differentiate between seasonal hunger and chronic hunger?
- 10) Name different types of vegetation found in India? Describe them all.
- 11) What were the main causes of deforestation in India during the British period?
- 12) Mention the reasons for poverty in India.
- 13) Mention the reasons for activities of food corporation of India?
- 14) What was 'The Enabling Act'? When was it passed?
- 15) What is the role of health in human capital formation?
- 16) Why do we need constitution? Explain with taking examples from constitution of South Africa during design of their constitution.
- 17) Who is the human Resource Development Minister of India?
- 18) What are three types of natural vegetation.
- 19) What is subsidy.
- 20) What is the full form of FCI?

- 21) Explain scientific forestry?
- 22) Define the mid-Term Election.
- 23) What is the importance of election in democracy?
- 24) ~~Exa~~ Explain the reasons of deforestation in colonial India?
- 25) Explain the features of Tropical deciduous forests.
- 26) Distinguish between political executive and permanent executive.
- 27) What is hunger? Explain its types?
- 28) Define elections.
- 29) Which national park is the natural habitat of India lion?
- 30) Name the two houses of the Parliament of India.
- 31) Which scheme implementation provides 100 days assured employment in rural areas?
- 32) Name the social groups which are more prone to food insecurity.
- 33) Which two states are considered as the poorest states of India?
- 34) Explain any two features of Forest Act of 1878.
- 35) How is the Lok Sabha more powerful than the Rajya Sabha?
- 36) Why do different countries use different poverty line?
- 37) What is meant by Buffer stock? Why is it created by the government?

- 38) Discuss any two schemes launched by the government of India to provide food security to the poor people of India.
- 39) How did the world wars affect the forest of Java and India?
- 40) Mention the steps taken by the Indian government to protect the endangered species.
- 41) Describe the challenge to Indian Election system.
- 42) If a Lok Sabha constituency is vacated because of the death of a member of parliament, which election will be held to fill the vacancy?
- 43) What are the demerits of electoral competition.
- 44) Why did the government decide to ban shifting cultivation?
- 45) Why do we need election?
- 46) When did commercial forestry started.
- 47) What is colonialism?
- 48) Write the five reasons of deforestation.
- 49) Explain the shifting cultivation.
- 50) Write the characteristics of Indian election system.
- 51) What is poverty line?
- 52) What is rural poverty?
- 53) What is NAREGA?
- 54) Give any five reasons of poverty?
- 55) How is the Prime Minister appointed.
- 56) What purpose does mid-day meal scheme launched by the government in the school?

- 57) Why buffer stock created by the government.
- 58) What is shifting cultivation? Why did the colonial government decided to ban shifting cultivation?
- 59) Distinguish between the Lok Lok - Sabha and the Rajya Sabha. How is the Lok Sabha more powerful than the Rajya Sabha?
- 60) What is poverty?
- 61) Name different types of vegetation found in India.
- 62) The member of legislating assembly is called by which name?
- 63) Who conduct free and fair election.
- 64) How do political leaders try to win the heart hearts of voters?
- 65) What is 'Fair price Shops'?
- 66) What is Electoral showers?
- 67) How many seats are reserved in Lok Lok Sabha for scheduled castes?
- 68) Why do we need Parliament, Parliament?
- 69) What are the importance of public distribution system?
- 70) Explain the electoral process in India.
- 71) How is the President of India appointed? What are his powers?
- 72) Who are MPs and MLAs?
- 73) What are general election and by elections?
- 74) What are the major reason for the less effectiveness of poverty alleviation programs?
- 75) What are the powers of the judiciary of India.

कक्षा दसवीं A, B
विषय हिंदी

प्रीबोर्ड प्रथम का प्रश्नपत्र पूर्णतया हल करके लेकर आयें।

X A, B. Sst. Shift II

solve any two sample papers of subject materials book of sst and write down in the note book.

solve and write all paper of pre board I, in the note book.

Fill and paste map of India

Topics for map → Thermal, nuclear power station, coal mines, minerals, air ports, ports, cotton textile mills, IT parks.

G.P.

Class X

Winter vacation Homework

[PHYSICS]

1. The focal length of eye lens increases when eye muscles are
 - a) Contract and lens becomes thicker
 - b) Contract and lens becomes thinner
 - c) Relaxed and lens becomes thinner
 - d) Relaxed and lens becomes thicker
2. Magnetic field inside a long solenoid carrying current is
 - a) Zero
 - b) Different at all points
 - c) Partly uniform and partly non-uniform
 - d) Same at all points
3. At the time of short circuit , the current in the circuit
 - a) Varies continuously
 - b) Increases heavily
 - c) Does not change
 - d) Reduced considerably
4. Define the term Coulomb.
5. State the relationship between the electric current, the charge moving through a conductor and the time of flow.
6. Calculate the charge passing through an electric bulb in 20min if the value of current is 200Ma.
7.
 - a) What is an electromagnet?
 - b) List any of its two uses.

Class11

Winter vacation homework (PHYSICS)

1. Define the terms: stress and strain and also state their S.I. units. Draw the stress V/s strain graph for a metallic wire, when stretched up to the breaking point.
2. A steel wire of radius 10 mm and length 1 m. A 100 KN force stretches it along its length. Calculate (a) stress (b) elongation (c) strain ($y = 2 \times 10^{11} \text{ N/m}^2$).
3. What is stoke's law? Derive the relation by the method of dimensions.
4. State and prove Pascal's law.
5. State & prove Bernoulli's theorem for a non-viscous liquid
6. Define terminal velocity. Find an expression for it.
7. Explain surface tension and surface energy. Prove that surface energy is numerically equal to surface tension.
8. Derive an expression for the excess of pressure inside a liquid drop.
9. Derive an expression for the rise of liquid in a capillary tube of uniform diameter and sufficient length.
10. Derive a relation between volume expansion and linear expansion.

Holiday H.W.
(Winter Break.)

Class-XI (CHEMISTRY)

- (i) Revision for Hydrogen, Redox, S-block and P-block elements for PT-2.
- (ii) Exercise 10.4, 10.6, 10.12, 10.13, 10.9, 10.22, 10.23, 10.25, 10.26, 10.27.
- (iii) Exercise 11.1, 11.2, 11.5, 11.6, 11.7, 11.9, 11.13, 11.14, 11.15, 11.16, 11.20, 11.21 in Home work copy.

WINTER BREAK HOME WORK FOR CLASS 11TH 2019 (subject- Biology)

01-Prepare a scrap file using Quarter of chart paper-Tables given in mineral nutrition ,Diagrams mentioned in the chapter Bio-molecules.

02-Prepare a chart of action, absorption and the concerned pigment graph, Z scheme, cyclic and non-cyclic photo phosphorylation. Calvin cycle, biosynthetic phase,

05-Prepare a chart in EMP cycle, kreb's cycle,ETS.RQ etc.

06-Prepare a comparative chart of physiological action of different PGR in agronomic and horticulture in tabulated form.

HOLIDAY HOMEWORK FOR CLASS XI

Subject - Mathematics

- Q.1. The slope of a line is double of the slope of another line. If tangent of the angle between them is $1/3$, find the slope of the lines.
- Q.2. A line perpendicular to the line segment joining the points (1,0) and (2,3) divides it in the ratio 1:n. Find the equation of the line.
- Q.3. Find equation of the line passing through the point (2,2) and cutting off intercepts on the axes whose sum is 9.
- Q.4. Find the distance of the point (-1,1) from the line $12(x + 6) = 5(y - 2)$.
- Q.5. If p is the length of perpendicular from origin to the line $\frac{x}{a} + \frac{y}{b} = 1$, then show that $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$.
- Q.6. Find the coordinates of the foot of the perpendicular from the point (-1,3) to the line $3x - 4y - 16 = 0$.
- Q.7. Assuming that straight lines work as the plane mirror for a point, find the image of the point (1, 2) in the line $x - 3y + 4 = 0$.
- Q.8. Find the value of p so that the three lines $3x + y - 2 = 0$, $px + 2y - 3 = 0$ and $2x - y - 3 = 0$ may intersect at one point.
- Q.9. In what ratio, the line joining (-1, 1) and (5, 7) is divided by the line $x + y = 4$.
- Q.10. Find equation of the line which is equidistant from parallel lines $9x + 6y - 7 = 0$ and $3x + 2y + 6 = 0$.
- Q.11. Find the centre and radius of the circle $2x^2 + 2y^2 - 2x + 8y - 46 = 0$.
- Q.12. Find the length of the latus rectum of parabola $x^2 = 8y$.
- Q.13. Find the equation of the circle passing through the points (2, -2) and (3, 4) and whose centre is on the line $x + y = 2$.
- Q.14. Find the coordinates of the foci, the vertices, the eccentricity and the length of latus rectum of the hyperbola $16x^2 - 9y^2 = 144$.
- Q.15. Prove that P(3, 2, 4), Q(5, 4, -6) and R(9, 8, -10) are collinear.
- Q.16. A line perpendicular to the line segment joining the points (1, 0) and (2, 3) divides it in the ratio 1: n. Find the equation of the line.
- Q.17. If p is the length of perpendicular from origin to the line $\frac{x}{a} + \frac{y}{b} = 1$, then show that $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$.
- Q.18. Find the equation of the ellipse satisfying the given condition
Foci (0, ± 5), Vertices (0, ± 13).
- Q.19. An equilateral triangle is inscribed in the parabola $y^2 = 12x$, where one vertex is at the vertex of the parabola. Find the length of the side of the triangle.
- Q.20. A deflected beam is the shape of a parabola $x^2 = 4ay$. The beam is supported at its ends which are 12m apart. The deflection in the centre is 9cm only. Find the point on the beam where deflection is 5cm. Parabolic and elliptic beam and arches designed by architects for strength and beauty. Is it possible to design hyperbolic beams?

Class XI
Computer Science

Programming in Python:

- Find the largest and smallest numbers in a list.
- To find average and grade for given marks,
- To find amount for given cost-qty-discount,
- To calculate cost perimeter-wise/ area-wise,
- To calculate interest (Simple and Compound)
- To calculate profit-loss for given Cost and Sell Price
- To calculate EMI for Amount, Period and Interest,
- To calculate tax (examples from GST/Income Tax)

- Find whether a string is a palindrome or not.
- Given two integers x and n, compute x^n .
- Compute the greatest common divisor and the least common multiple of two integers.
- Test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such numbers.

Data Management:

Write short note on following terms:-

Relational Database model, Relation, Domain, Degree, Cardinality, Views,
Primary Key, Candidate Key, Alternate Key, Foreign Key, Referential Integrity.
Unique Constraints, Default Constraints, Check Constraints

Differentiate between DDL and DML commands.

SQL Commands

- To create a database
- To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.
- To insert the details of at least 10 student in the above table.
- To delete the details of a particular student in the above table.
- To increase marks by 5% for those students, who have Rno more than 20
- To display the entire content of table on screen
- To display Rno, Name and Marks of those students, who are scoring marks more than 50.
- To find the average of marks from the student table
- To find the number of students, who are from section 'A'
- To add a new column email of appropriate data type
- To find the minimum and maximum marks obtained by students
- To modify email for each student.
- To display the information all the students, whose name starts with 'AN' (Examples: ANAND, ANGAD,..)
- To display Rno, Name, DOB of those students, who are born between '2005- 01-01' and '2005-12-31'
- To display Rno, Name, DOB, Marks, Email of those male students in ascending order of their names.
- To display Rno, Gender, Name, DOB, Marks, Email in descending order of their marks.

Winter - Break Homework

English

1. Sowabli / Shobita shikhan social activist of the district, plan to organise cleanliness campaign design a poster to make the people aware about advantages of being clean and keeping surrounding clean.
2. Make a project of on the topic Heiling Planet, harmful effects of and remedies taken for it.
3. You are going to celebrate christmas day on this occasion you have to plan to organise to grand get together, draft an invitation card to be sent all your relatives and friends.

शीतकालीन अवकाश गृहकार्य कक्षा - XI व XII
HOLIDAY HOME WORK FOR XI - XII

विषय - हिन्दी
कार्य → परियोजना (Project) कार्य
(* किसी एक विषय पर)

- ① आरोह भाग-एक (कक्षा-XI) व आरोह-भाग दो (कक्षा-XII) वितान " " व वितान " " के किसी भी एक लेखक अथवा कवि के जीवन परिचय, साहित्यिक परिचय एवं व्यक्तित्व व योगदान पर परियोजना कार्य तैयार करें।
- ② जनसंचार के विभिन्न माध्यमों की शुरुआत, विकास तथा संचार क्रांति में भूमिका पर परियोजना तैयार करें।
- ③ भक्तिकाल की धारारें - शाखारें तथा प्रमुख कविओं व साहित्यिक योगदान पर परियोजना तैयार करें।
- ④ जनसंचार व पत्रकारिता की विविध विधाओं आलेख, फीचर लेख, प्रतिवेदन, विज्ञापन लेखन, विज्ञप्ति, कार्यवृत्त, कार्यसूची, संपादकीय, दृश्यलेख, समाचार लेखन आदि की सैद्धांतिक व्याख्या व नमूने परियोजना कार्य के रूप में तैयार करें।
- ⑤ कविता, कहानी व नाटक के लेखन तत्व व उनके अंतर पर परियोजना कार्य तैयार करें। (उदाहरण सहित)
- ⑥ अपने किसी भी प्रिय साहित्यिक विषय (हिन्दी से संबद्ध) पर परियोजना कार्य तैयार करें।

Class - XI 'B'

DATE: ___/___/___

Winter - Break Homework

Accountancy [055]

1. Project file
2. Write 31 transactions and convert them into Journal, ledger, Trial balance, final Account and any six adjustment.
3. Preparation of P.T-2
4. Objective type questions (any 20)
 - Bills of Exchange
 - Rectification of Error
 - Financial statement of Sole proprietorship
 - Adjustments in Preparation of Financial Statement
5. 3 marks question (8)
6. 4 marks question (8)
7. 6 marks question (8)
8. 8 marks question (4)

APK
17/12/19

Class - XI 'B'

DATE: ___/___/___

Winter - Break Homework

Business Studies [054]

1. Project file
2. Preparation of P.T-2
3. Objective type question (any 20)
 - Sources of Business Finance
 - Small Business and Enterprises
 - Internal Trade
4. 3 marks question (8)
5. 4 marks question (8)
6. 5 marks question (6)
7. 6 marks question (4)

Atal

17/12/19

For class XI B Economics

Economics Project work for Annual Exam
- (20 Marks) .

✓ . — n

Class XI

INFORMATICS PRACTICES

Programming in Python:

- To find average and grade for given marks,
- To find amount for given cost-qty-discount,
- To calculate cost perimeter-wise/ area-wise,
- To calculate interest (Simple and Compound)
- To calculate profit-loss for given Cost and Sell Price
- To calculate EMI for Amount, Period and Interest,
- To calculate tax (examples from GST/Income Tax)
- To find the largest and smallest numbers in a list.
- To find the third largest number in a list.
- To find the sum of squares of the first 100 natural numbers.
- To find whether a string is a palindrome or not.
- To compute x^n , for given two integers x and n,
- To compute the greatest common divisor and the least common multiple of two integers.
- To test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such numbers in the range of 100 to 1000.

Data Handling:

The following are some representative lab assignments.

- Import numpy as `np` and print the version number.
- To create an array of 1D containing numeric values 0 to 9
- To create a numPy array with all values as True
- To extract all odd numbers from numPy array
- To extract all even numbers from numPy array
- To copy the content of an array A to another array B, replacing all odd numbers of array A with -1 without altering the original array A
- To replace all odd numbers in numPyarr with -1
- To copy content of a 1D array into a 2D array with 2 rows
- To perform basic arithmetic operations on 1D and 2D array

Data Management:

Write short note on following terms:-

Relational Database model, Relation, Domain, Degree, Cardinality, Views, Primary Key, Candidate Key, Alternate Key, Foreign Key, Referential Integrity. Unique Constraints, Default Constraints, Check Constraints

Differentiate between DDL and DML commands.

SQL Commands

- SQL Commands
- To create a database
- To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.
- To insert the details of at least 10 student in the above table.
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- To increase marks by 5% for those students, who have Rno more than 20
- To display the entire content of table on screen
- To display Rno, Name and Marks of those students, who are scoring marks more than 50.
- To find the average of marks from the student table
- To find the number of students, who are from section 'A'
- To add a new column email of appropriate data type
- To find the minimum and maximum marks obtained by students
- To modify email for each student.
- To display the information all the students, whose name starts with 'AN' (Examples: ANAND, ANGAD,..)
- To display Rno, Name, DOB of those students, who are born between '2005-01-01' and '2005-12-31'
- To display Rno, Name, DOB, Marks, Email of those male students in ascending order of their names.
- To display Rno, Gender, Name, DOB, Marks, Email in descending order of their marks.


CLASS XII

WINTER VACATION HOMEWORK (PHYSICS)

1. Write Einstein's photoelectric equation. State clearly the three salient features observed in photoelectric effect which can explain on the basis of this equation. The maximum kinetic energy of the photoelectrons gets doubled when the wavelength of light incident on the surface changes from λ_1 to λ_2 . Derive the expression for the threshold wavelength λ_0 and work function for the metal surface.
2. Write two characteristics features observed in photoelectric effect which support the photon picture of electromagnetic radiation. Draw graph between the frequency of incident radiation (ν) and the maximum k.E. of the electron emitted from the surface of a sensitive material. State clearly how this graph can be used to determine (i) Planck's constant and (ii) work function of the material.
3. An α particles and a proton are accelerated from rest by the same potential. Find the ratio of their de-Broglie wavelengths.
4. Plot a graph showing variation of de Broglie wavelength (λ) associated with a charged particle of mass m , versus $1/\sqrt{V}$, where V is the potential difference through which the particle is accelerated. How does this graph gives us the information regarding the, magnitude of the charge of the particle?
5. Light of the wavelength 2000\AA falls on a metal surface of work function 4.2eV . What is the K.E of the fastest electrons emitted from the surface?
 - (i) What will be the change in the energy of the emitted electrons if the intensity of light with same wavelength is doubled?
 - (ii) If the same light falls on another surface of work function 6.5eV , what will be the energy of emitted electrons?
6. Draw graphs showing the variation of photoelectric current with anode potential of a photocell for (i) same frequency but different intensities $I_1 > I_2 > I_3$ of incident radiation. (ii) Same intensity but different frequency $\nu_1 > \nu_2 > \nu_3$ of incident radiation. Explain why the saturation current is independent of the anode potential.

Class. xii
H. W.
Winter break

- Q-1. All Name reactions, of organic chemistry
- Q-2. 20 pairs. (distinguish between pairs of compounds, by suitable test)
- Q-3. ^{write structure of} Monomers, Polymers & imp-Uses of All the Polymers.
- Q-4. Exercise questions of Biomolecules & chem. in everyday life
- Q-5. Numerical problems (10 from each chapter) in Solution, Electrochemistry and kinetics. of Old CBSE paper supplied to you.
- Q-6. Exercise questions from Surface chemistry & extraction of elements.


V. Patidar.

HOLIDAY HOMEWORK FOR CLASS XII
Subject - Mathematics

- (1) SAMPLE PAPER- 10, 11, 12,13 AND 14.
 - (2) SHEET OF 170 IMPORTANT QUESTIONS.
 - (3) YEAR WISE & CHAPTER WISE QUESTIONS OF LAST 10 YEAR.
-

class - XIIth

Subject: IP/CS

- ① Solve Pre-Board Question Papers of different regions shared in class.
- ② Complete Project file and other records.

निदेशक जी
21/12/2019

Winter - Break Homework

English

1. Sowabli / Shobita shikhan social activist of the district, plan to organise cleanliness campaign design a poster to make the people aware about advantages of being clean and keeping surrounding clean.
2. Make a project of on the topic Heiling Planet, harmful effects of and remedies taken for it.
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शीतकालीन अवकाश गृहकार्य कक्षा - XI व XII
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- ⑥ अपने किसी भी प्रिय साहित्यिक विषय (हिन्दी से संबद्ध) पर परियोजना कार्य तैयार करें।

For class XII B .

Any three sample papers solutions
with Extra . I preboard paper also .

HNW
19/12/19 (H.M. Kaushik)