

# M.R.VIVEKANANDA MODEL SCHOOL

SEC-13, DWARKA

## SUMMER HOLIDAY HOMEWORK CLASS X

Dear Parents

Greetings!

The academic session 2020-21 could not begin as the way we wanted it and even we couldn't welcome our students in their new class because of the pandemic Covid 19. We at MRV always strive to go extra miles for our students and try to provide them with quality education. Please find herewith the Holiday Homework for your ward to be done by them in your guidance. Hopefully, schools may start functioning in its normal course wef. 1.7.2020

All the phone numbers you are connected with will be operational during the vacation for your convenience.

Looking forward for your support and cooperation in future too.

Warm regards

### **SCIENCE**

#### **PHYSICS**

Assignment of Electricity ( given to students)

Project Report-

Report must have following information

1. Introduction
2. Index
3. Explanation of minimum 10 pages
4. Bibliography

Roll number 1-10 - Save Electricity

Roll number 11-20- Study of electricity bill

Roll number 21 onwards- various types of appliances used in household

## Chapter-12 : Electricity

### Assignment - 1

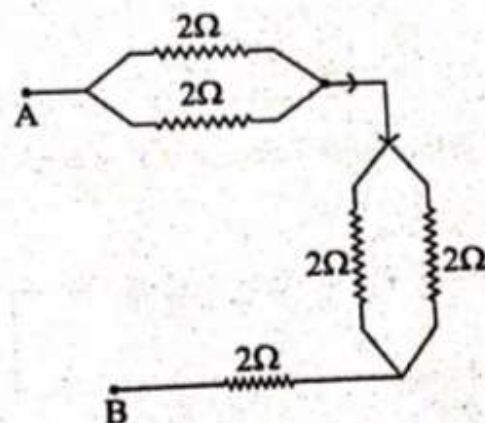
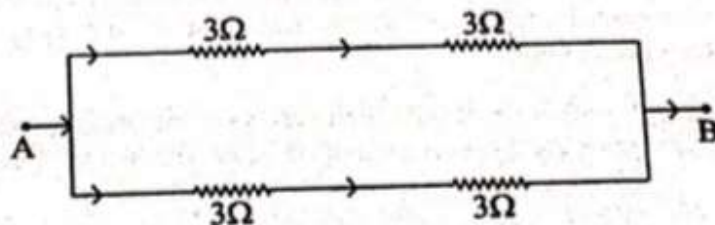
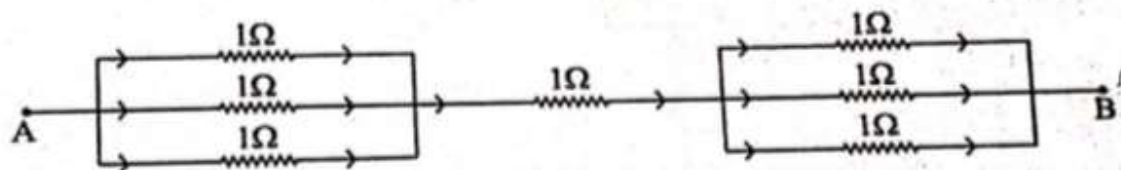
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#### I. Very Short Answer Type Questions:

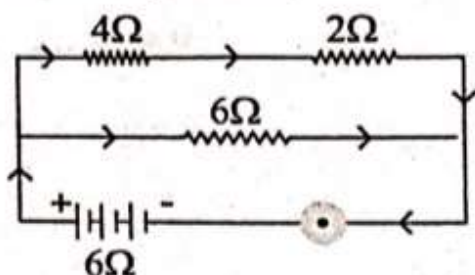
- Define S.I. unit of :
  - Electric current
  - Potential difference
  - Resistance
  - Electric power
  - Electrical energy consumed
- Define the term resistivity.
- A wire of resistivity ' $\rho$ ' is pulled to double its length. What will be its (i) new resistance (ii) new resistivity?
- Calculate the amount of charge flowing in a wire if it draws a current of 2A in 10 minutes.
- Why do we use Copper and Aluminium wire for transmission of electric current?
- An electric resistor of resistance  $20\Omega$  draws a current of 5A. Calculate the heat produced by it in 30 seconds.
- Why is series arrangement not used for connecting domestic electric appliances in a circuit?
- Which has higher resistance a 50W bulb or a 2.5W bulb and by how many times?
- Why are heating elements made of alloys rather than metals?
- Which device helps to maintain a potential difference across a conductor?

#### II. Short Answer Type Questions:

- Find the effective resistance between A and B.

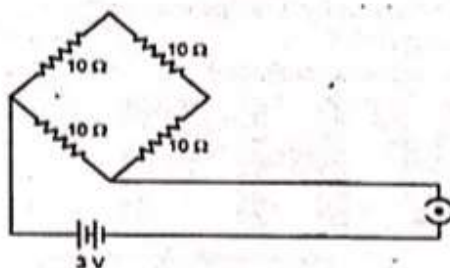


2. What would be new resistance if length of conductor is doubled and thickness is halved?  
 3. In the circuit given below,



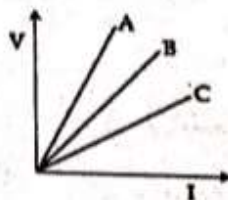
Calculate: (a) Total effective resistance. (b) Potential difference across  $4\Omega$ ,  $2\Omega$ .

4. Three resistances of  $2\Omega$ ,  $3\Omega$  and  $5\Omega$  are connected in an electric circuit. Find the : (a) maximum effective resistance, (b) minimum effective resistance.  
 5. Study the network of resistors shown in the figure below. Find the (i) equivalent resistance (ii) current drawn from the battery.

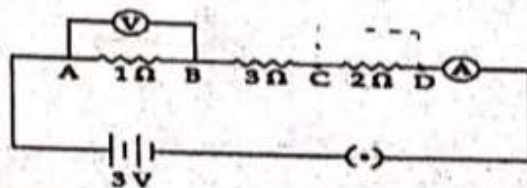


### III HOTS:

1. (a) A student performs an experiment with 4 cells and a resistance wire and an ammeter in series and observes that when the number of cells in the circuit is decreased, the value of current through the wire also decreases. Name the law that is involved in the experiment and write its mathematical form.  
 (b) V-I graph for two resistors  $R_1$ ,  $R_2$  and their series combination are shown in the figure below. Which graph represents the series combination of the other two? Give reason.



2. How would the reading of voltmeter (V) change if it is connected between C and D? Justify your answer.



## BIOLOGY

Assignments on chapter 6

Topic-nutrition, respiration, transportation, excretion

Draw all diagram given in the ncert book of chapter 7 and 8.

(Students can use various innovative ideas for making diagram )

Write biology practicals in your practical file.

Do biology holiday homework in your class notebook.

\*Learn and revise all chapters that are done.

## ASSIGNMENT

### Chapter 6 - Life Processes

#### Assignment no: 1

Date: \_\_\_\_\_

#### I. Very Short Answer Type Questions:

1. Write the full form of the abbreviations ATP and ADP.
2. Write the overall balanced equation for photosynthesis.
3. Which chamber of heart has the thickest wall?
4. What is the role of stomata in the process of photosynthesis?
5. Which pancreatic enzyme is effective in digestion of proteins?
6. Name the vestigial part of alimentary canal.
7. Why is anaerobic respiration less efficient?
8. Where is urine carried through ureters?
9. What is the function of excretory system in humans?
10. Answer the following questions:  
(i) Name the blood vessel that brings oxygenated blood to the human heart.  
(ii) Which chamber of human heart receives oxygenated blood?

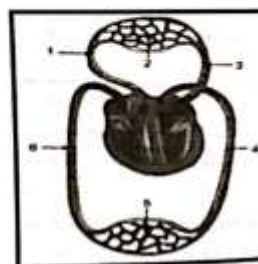
#### II. Short Answer Type Questions:

1. Write the roles performed by bile in the digestion of food.
2. How are the lungs designed in human beings to maximize the area for exchange of gases?
3. Why do the walls of trachea not collapse when there is less air in it?
4. Why do some people need to use a dialysis machine? What does the machine do?
5. State the functions of blood in our body.

#### III. HOTS:

1. A liquid X of colour Y circulates in the human body only in one direction. Among other thing, liquid X contains germs from cells and dead cells. The liquid X is cleaned of germs and dead cells by a special type of white blood cells called Z. This cleaned liquid is then put into blood circulatory system in subclavian veins.  
(a) What is (i) liquid "X" and (ii) colour "Y"  
(b) What are "Z"?  
(c) The liquid "X" is somewhat similar to a component of blood. Name this component.  
(d) Why is liquid "X" not red?
2. Why does acid not erode the wall of the intestine?
3. Why is simple diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans?
4. (i) Label the parts in the diagram given below.

(ii) What are the two functions illustrated in this diagram?



## **CHEMISTRY**

Assignment of Chemical Reactions and Equations:

Make a PPT of 10 slides for the following:

1-10: chemical equations

11-20: chemical reactions and types of chemical reactions

Make a video of minimum 10 minutes for the following :

21-30: chemical equations

31 onwards :chemical reactions and types of chemical reactions

### **Chemistry- Chemical Reactions and Equations**

Answer the following questions:

1. What is rancidity? Write a common method to prevent it.
2. Explain how respiration is an exothermic reaction.
3. What is meant by balanced chemical equation? Why are chemical equations balanced? Balance the following equation:  
$$\text{Al}_2\text{O}_3 + \text{NaOH} \rightarrow \text{NaAlO}_2 + \text{H}_2\text{O}$$
4. Name the gas which is liberated when an acid reacts with a metal. Illustrate with an example. How will you test the presence of the gas?
5. Oil and fat containing food items are flushed with nitrogen. Why?
6. What are the colours of aqueous solutions of  $\text{CuSO}_4$  and  $\text{FeSO}_4$  as observed in a laboratory?
7. Define endothermic reaction.
8. Why does milky limewater disappear when excess  $\text{CO}_2$  is passed through it?
9. Decomposition reactions require energy either from heat, light or electricity from breaking down the reactants. Write one equation each for decomposition reactions where energy is present in form of heat, light and energy.
10. Why are decomposition reactions called opposite of combination reactions? Write equations for these reactions.
11. On passing excess carbon dioxide gas through lime water, it first turns milky and then becomes colorless. Explain why? Write all the chemical equations of reactions involved.

12. CaO and CO<sub>2</sub> are produced by heating CaCO<sub>3</sub>. What is the type of reaction and the process?

13. State the kind of chemical reactions in the following examples:

- i. Digestion of food in stomach.
- ii. Combustion of coal in air.
- iii. Heating of limestone.

14. Select (i) composition reaction (ii) decomposition reaction and (iii) displacement reactions from the following chemical equations:

- i.  $\text{Pb(s)} + \text{CuCl}_2(\text{aq}) \rightarrow \text{PbCl}_2(\text{aq}) + \text{Cu(s)}$
- ii.  $\text{NaBr(aq)} + \text{AgNO}_3(\text{aq}) \rightarrow \text{AgBr(s)} + \text{NaNO}_3(\text{aq})$
- iii.  $\text{H}_2(\text{g}) + \text{Cl}_2(\text{g}) \rightarrow 2\text{HCl(g)}$

15. Why do we apply paint on iron articles?

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## ENGLISH

1. Imagine You are a Director. You are going to turn a tale into a film. Draw pictures and add captions underneath to describe what is happening. Give a title and moral to the story.

2. Write an essay in about 150 to 200 words- 'The best strategy in the Quarantine to reduce the spread of Covid-19'.

or

Ideas for relieving stress during Corona virus Quarantine.

3. Write 30 Idioms, their meanings and sentences in your English notebook.

4. Pick two words daily from your dictionary, write their meanings and sentences in your notebook.

5. Write summary and keywords (chapter 3 to 10) of your Supplementary Reader in your notebook.

6. Select a medium of advertising- television, magazine, newspaper. Decide upon a product and its name. Promote the chosen product. Use your creativity to write a catchy slogan/ jingle/ story and make pictures to advertise your product.

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## MATHEMATICS

1. Complete your Maths lab file creatively and beautifully with the following:

A. i) Quiz/Oral Questions

ii) Cross Word

## B. Activities:

Activity 1, Activity 2, Activity 9, Activity 10, Activity 11, Activity 12, Activity 15,

Activity 18, Activity 20, Activity 21, Activity 22, Activity 23 and Activity 24

## C. Projects:

i) Project - 2 (Verify the formula of probability through experiment)

ii) Project - 4 (Verify Pythagoras Theorem)

2. Do the following assignment in separate notebook:

Enjoy your holidays to the maximum but at the same time be sincere and loyal to

studies.

In case of any doubt in the subject, feel free to call me.

## **ASSIGNMENTS**

### ASSIGNMENT -1

1) Three tankers contain 403 litres, 434 litres and 465 litres of diesel respectively. Find the

maximum capacity of a container that can measure the diesel of the three containers exact

number of times.

2) Find the least number which when divided by 6, 15 and 18 leave remainder 5 in each case.

3) Find the smallest 4-digit number which is divisible by 18, 24 and 32.

4) Renu purchases two bags of fertiliser of weights 75 kg and 69 kg. Find the maximum

value of weight which can measure the weight of the fertiliser exact number of times.

5) In a seminar, the number, the number of participants in Hindi, English and Mathematics

are 60, 84 and 108, respectively. Find the minimum number of rooms required if in each

room the same number of participants are to be seated and all of them being in the same subject.

6) 144 cartons of Coke cans and 90 cartons of Pepsi cans are to be stacked in a canteen. If

each stack is of the same height and is to contain cartons of the same drink, what would be

the greatest number of cartons each stack would have?

7) A merchant has 120 litres of oil of one kind, 180 litres of another kind and 240 litres of

third kind. He wants to sell the oil by filling the three kinds of oil in tins of equal capacity.

What would be the greatest capacity of such a tin?

8) Express each of the following positive integers as the product of its prime factors:

(i) 3825 (ii) 5005 (iii) 7429

9) Express each of the following positive integers as the product of its prime factors:

(i) 140 (ii) 156 (iii) 234

10) There is circular path around a sports field. Priya takes 18 minutes to drive one round of

the field, while Ravish takes 12 minutes for the same. Suppose they both start at the same

point and at the same time and go in the same direction. After how many minutes will they

meet again at the starting point?

11) In a morning walk, three persons step off together and their steps measure 80 cm, 85 cm

and 90 cm, respectively. What is the minimum distance each should walk so that each can

cover the same distance in complete steps?

12) A circular field has a circumference of 360 km. Three cyclists start together and can cycle

48, 60 and 72 km a day, round the field. When will they meet again?

13) Find the smallest number which leaves remainders 8 and 12 when divided by 28 and 32 respectively.



14) Find the smallest number which when increased by 17 is exactly divisible by 520 and 468.

15) Find the greatest numbers that will divide 445, 572 and 699 leaving remainders 4, 5 and 6 respectively.

16) Find the greatest number which divides 2011 and 2423 leaving remainders 9 and 5 respectively

17) Find the greatest number which divides 615 and 963 leaving remainder 6 in each case.

18) Find the greatest number which divides 285 and 1249 leaving remainders 9 and 7 respectively

## ASSIGNMENT- 2

1. Find the value of  $k$  for which the quadratic equation  $2x^2 + kx + 3 = 0$  has two real equal roots.

2. Find the value of  $k$  for which the quadratic equation  $kx(x - 3) + 9 = 0$  has two real equal roots.

3. Find the value of  $k$  for which the quadratic equation  $4x^2 - 3kx + 1 = 0$  has two real equal roots..

4. If  $-4$  is a root of the equation  $x^2 + px - 4 = 0$  and the equation  $x^2 + px + q = 0$  has equal roots, find the value of  $p$  and  $q$ .

5. If  $-5$  is a root of the equation  $2x^2 + px - 15 = 0$  and the equation  $p(x^2 + x) + k = 0$  has equal roots, find the value of  $k$ .

6. Find the value of  $k$  for which the quadratic equation  $(k - 12)x^2 + 2(k - 12)x + 2 = 0$  has two real equal roots..

7. Find the value of  $k$  for which the quadratic equation  $k^2x^2 - 2(k - 1)x + 4 = 0$  has two real equal roots..

8. If the roots of the equation  $(a - b)x^2 + (b - c)x + (c - a) = 0$  are equal, prove that  $b + c = 2a$ .

9. Prove that both the roots of the equation  $(x - a)(x - b) + (x - b)(x - c) + (x - c)(x - a) = 0$

are real but they are equal only when  $a = b = c$ .

10. Find the positive value of  $k$  for which the equation  $x^2 + kx + 64 = 0$  and  $x^2 - 8x + k = 0$  will

have real roots.

11. Find the value of  $k$  for which the quadratic equation  $kx^2 - 6x - 2 = 0$  has two real roots.

12. Find the value of  $k$  for which the quadratic equation  $3x^2 + 2x + k = 0$  has two real roots.

13. Find the value of  $k$  for which the quadratic equation  $2x^2 + kx + 2 = 0$  has two real roots.

14. Show that the equation  $3x^2 + 7x + 8 = 0$  is not true for any real value of  $x$ .

15. Show that the equation  $2(a^2 + b^2)x^2 + 2(a + b)x + 1 = 0$  has no real roots, when  $a \neq b$ .

16. Find the value of  $k$  for which the quadratic equation  $kx^2 + 2x + 1 = 0$  has two real and distinct roots.

17. Find the value of  $p$  for which the quadratic equation  $2x^2 + px + 8 = 0$  has two real and distinct roots.

18. If the equation  $(1 + m^2)x^2 + 2mcx + (c^2 - a^2) = 0$  has equal roots, prove that  $c^2 = a^2(1 + m^2)$ .

### ASSIGNMENT -3

Solve the following quadratic equations:

1.  $x^2 + 11x + 30 = 0$

2.  $x^2 + 18x + 32 = 0$

3.  $x^2 + 7x - 18 = 0$

4.  $x^2 + 5x - 6 = 0$

5.  $y^2 - 4y + 3 = 0$

6.  $x^2 - 21x + 108 = 0$

7.  $x^2 - 11x - 80 = 0$

$$8. x^2 - x - 156 = 0$$

$$9. z^2 - 32z - 105 = 0$$

$$10. 40 + 3x - x^2 = 0$$

$$11. 6 - x - x^2 = 0$$

$$12. 7x^2 + 49x + 84 = 0$$

$$13. m^2 + 17mn - 84n^2 = 0$$

$$14. 5x^2 + 16x + 3 = 0$$

$$15. 6x^2 + 17x + 12 = 0$$

$$16. 9x^2 + 18x + 8 = 0$$

$$17. 14x^2 + 9x + 1 = 0$$

$$18. 2x^2 + 3x - 90 = 0$$

$$19. 2x^2 + 11x - 21 = 0$$

$$20. 3x^2 - 14x + 8 = 0$$

$$21. 18x^2 + 3x - 10 = 0$$

$$22. 15x^2 + 2x - 8 = 0$$

$$23. 6x^2 + 11x - 10 = 0$$

$$24. 30x^2 + 7x - 15 = 0$$

$$25. 24x^2 - 41x + 12 = 0$$

$$26. 2x^2 - 7x - 15 = 0$$

$$27. 6x^2 + 11x - 10 = 0$$

$$28. 10x^2 - 9x - 7 = 0$$

$$29. 5x^2 - 16x - 21 = 0$$

$$30. 2x^2 - x - 21 = 0$$

$$31. 15x^2 - x - 28 = 0$$

$$32. 8a^2 - 27ab + 9b^2 = 0$$

$$33. 5x^2 + 33xy - 14y^2 = 0$$

$$34. 3x^3 - x^2 - 10x = 0$$

$$35. x^2 + 9x + 18 = 0$$

$$36. x^2 + 5x - 24 = 0$$

$$37. x^2 - 4x - 21 = 0$$

38.  $6x^2 + 7x - 3 = 0$

39.  $2x^2 - 7x - 39 = 0$

ASSIGNMENT - 4

1. 7th term of an AP is 40. The sum of its first 13th terms is

(a) 500 (b) 510 (c) 520 (d) 530

2. The sum of the first four terms of an AP is 28 and sum of the first eight terms of the same

AP is 88. Sum of first 16 terms of the AP is

(a) 346 (b) 340 (c) 304 (d) 268

3. Which term of the AP 4, 9, 14, 19, ..... is 109?

(a) 14th (b) 18th (c) 22nd (d) 16th

4. How many terms are there in the arithmetic series  $1 + 3 + 5 + \dots + 73 + 75$ ?

(a) 28 (b) 30 (c) 36 (d) 38

5.  $51 + 52 + 53 + 54 + \dots + 100 = ?$

(a) 3775 (b) 4025 (c) 4275 (d) 5050

6. How many natural numbers between 1 and 1000 are divisible by 5?

(a) 197 (b) 198 (c) 199 (d) 200

7. If  $a$ ,  $a - 2$  and  $3a$  are in AP, then the value of  $a$  is

(a)  $-3$  (b)  $-2$  (c)  $3$  (d)  $2$

8. How many terms are there in the AP 7, 10, 13, ...., 151?

(a) 50 (b) 55 (c) 45 (d) 49

9. The 4th term of an AP is 14 and its 12th term is 70. What is its first term?

(a)  $-10$  (b)  $-7$  (c)  $7$  (d)  $10$

10. The first term of an AP is 6 and the common difference is 5. What will be its 11th term?

(a) 56 (b) 41 (c) 46 (d) none of these

11. Which term of the AP 72, 63, 54, ..... is 0?

(a) 8th (b) 9th (c) 11th (d) 12th

12. The 8th term of an AP is 17 and its 14th term is -29. The common difference of the AP is

(a) -2 (b) 3 (c) 2 (d) 5

13. Which term of the AP 2, -1, -4, -7, ..... is -40?

(a) 8th (b) 15th (c) 11th (d) 23rd

14. Which term of the AP 20, 17, 14,..... is the first negative term?

(a) 8th (b) 6th (c) 9th (d) 7th

15. The first, second and last terms of an AP are respectively 4, 7 and 31. How many terms are there in the given AP?

(a) 10 (b) 12 (c) 8 (d) 13

Page No. \_\_\_\_\_

ब्रीष्मकालीन गृहकार्य  
कक्षा - दसवी (2020-21)  
विषय - हिंदी

1) क्या नकाब हमारी रक्षा कर सकता है? बीमारी की पहचान कैसे करें? गृह्यु की संभावना क्या है? कैसे जीवित रहें। इन्हीं तथ्यों को ध्यान में रखते हुए कोरोना वायरस पर एक रिपोर्ट तैयार करें। (Scrap file)

2) रहीम, कबीर, सुरदास के श्लोकों का संकलन करें और अर्थ सहित लिखें। (कोई 15 श्लोक) (Scrap file)

3) स्लोगन बनाए :- (रंगीन A-4 शीट पर)

- \* संजद दिवस
- \* हिंदी दिवस
- \* कोरोना वायरस
- \* पर्यावरण

4) पाठ्यक्रम :- i) संनयन पाठ-1, 2, 3 कहानियाँ पढ़िए और सार अपने शब्दों में P.C कॉपी पर लिखें।  
ii) स्पर्श में पढ़ाए गए अवलोक के सभी विषयों को पुनः पढ़ें और प्रश्न उत्तर यथा करें।  
iii) रोज कम से कम 10 मुहूर्ते पढ़ें, समझे और अर्थ लिखते हुए उनका वाक्य में प्रयोग करें। (P.C कॉपी)

“ सुरक्षा जीवन का अर्थ है,  
सुरक्षा के बिना सब व्यर्थ है,  
सुरक्षित रहिये  
स्वस्थ रहिये ॥

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- Learn and revise all the syllabus done in the classes.
- Its very important to update yourself..as a social science students so keep watching English news channels..Geographical channels, study about ancient Indian civilization.
- Make a chart or poster on any one of the following topic----
  - a)soil conservation
  - b)Three pillars of Indian Economy
  - c)Crop pattern of INDIA
- Make a project on A4 sheets or PPT on-----  
COVID-19 ( ITS COMPLSORY)---  
subtopics--
  - i) Its origin
  - ii) Reasons to spread
  - iii) Symptoms
  - iv) Preventive measures-----give DO&#39;S and DON&#39;TS.
  - v) What preventive measures school should take when it will reopen
  - vi) write also what steps Indian government has taken to control this pandemic.

□ Cbse has given a compulsory project on the following topics. Choose any one and show your creativity .

1. Sustainable Development

2. Social issues

3. Consumer Awareness

projects should not more than 20 sheets.

