VIDYA BHARATI SCHOOL

V E P WORKSHEET (2019-20)

Grade: X

SUBJECT: SCIENCE

Attempt all the questions and in respective notebook.

PHYSICS

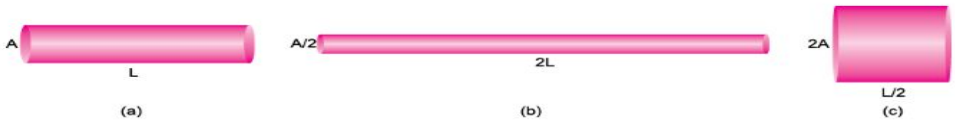
Q.1.Three bulbs each having power P are connected in series. In another circuit another set of three bulbs of same power are connected in parallel to the same source. Will the bulbs in both the circuits glow with the same brightness? Justify your answer.

Q.2.Name the physical quantities which is same and different in all the three bulbs of
a) Same wattage connected in series. b) Different wattage connected in parallel.

Q.3.Two devices of rating 44W,220V and 11W,220V are connected in series. The combination is connected across 440V mains. The fuse of which of the two devices is likely to burn when the switch is ON. Justify your answer.

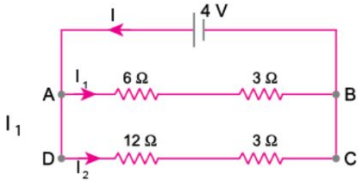
Q.4.Three bulbs each having power P are connected in series. In another circuit another set of three bulbs of same power are connected in parallel to the same source. Will the bulbs in both the circuits glow with the same brightness? Justify your answer.

Q.5.Figure (a), (b) and (c) show three cylindrical copper conductors along with their face areas and length. Which of the conductors will have the highest resistance and why?

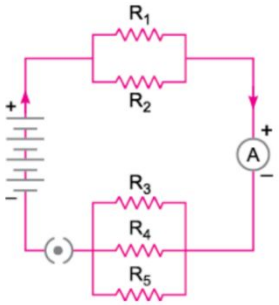


Q.6.For the circuit shown in the figure below:

What is the value of; i) Current through 6 Ohm resistor ii. Potential Difference across 12 Ohm resistor?

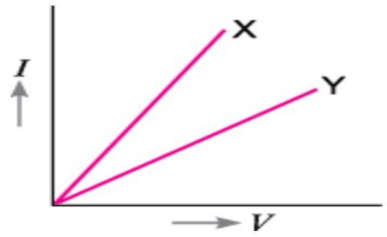


Q.7.If in the figure R_1 =10 Ohm , R_2 =40 Ohm, R_3 =20 Ohm, R_4 =30 Ohm, R_5 =60 Ohm, and a 12 V battery is connected to the arrangement, calculate (i) the total resistance in the circuit and (ii) the total current flowing in the circuit.



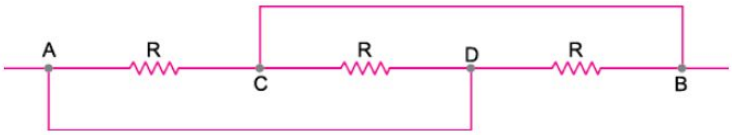
Q.8.A geyser is rated 1500W, 250 V. It is connected to 250 V mains. Calculate (i) the current drawn, (ii) the energy consumed in 50 hours, and (iii) the cost of energy consumed at ₹ 2.20 per kWh.

Q.9.V-I graph for the metallic wires X and Y at constant temperature are as shown in the figure:

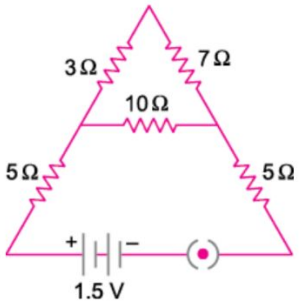


Assuming that the two wires have same length and same diameter, explain as to which of the two has higher resistivity and why?

Q.10.What is the resistance from point A to B in the network shown in the figure?

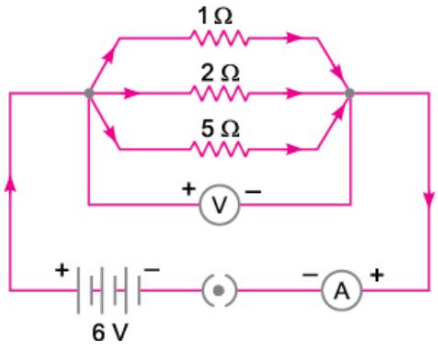


Q.11.Five resistances are connected as shown in the figure, Determine the total resistance of the circuit.



Q.12.For the given circuit diagram calculate:

(i) The current through each resistor.
(ii) The total current of the circuit.
(iii) The total effective resistance of the circuit.



Q.13.Derive an expression for the heat produced due to a current 'I' flowing for a time interval of 't' through a resistor 'R' with potential difference 'V' across its ends.

(i)With which name is this relation known? Derive its expression.

(ii) How much heat will an instrument of 12W produce in one minute if it is connected to a battery of?

12 V?

Q.14.Series arrangements are not used for domestic circuits. List ant three reasons.

Q.15.Explain the role of 'fuse' in series with any electric appliance in an electric circuit. Why should a fuse with defined rating for an electric circuit not be replaced by one with a larger rating?

CHEMISTRY

Q.1.A metal salt MX when exposed to light splits up to form metal M and a gas X_2. Metal M is used in making ornaments whereas gas X_2 is used in making bleaching powder. The salt MX is itself used in black and white photography.

(a) What do you think metal M is?

(b) What could be gas X_2?

(c) Name the metal salt MX.

(d) Name any two salt solutions which on mixing together can produce a precipitate of salt MX.

(e) What type of chemical reaction takes place when salt MX is exposed to light? Write the equation of the reaction.

Q.2.Two metals X and Y form the salts XSO_4 and Y_2SO_4, respectively. The solution of salt XSO_4 is blue in colour whereas that of Y_2SO_4 is colourless. When barium chloride solution is added to XSO_4 solution, then a white precipitate Z is formed along with a salt which turns the solution green. And when barium chloride solution is added to Y_2SO_4 solution, then the same white precipitate Z is formed along with colourless common salt solution.

(a) What could the metals X and Y be ?

(b) Write the name and formula of salt XSO_4.

(c) Write the name and formula of salt Y_2SO_4.

(d) What is the name and formula of white precipitate Z ?

(e) Write the name and formula of the salt which turns the solution green in the first case.

Q.3.When a green iron salt is heated strongly, its colour finally changes to brown and odour of burning sulphur is given out.

(a) Name the iron salt.

(b) Name the type of reaction that takes place during the heating of iron salt.

(c) Write a chemical equation for the reaction involved.

Q.4.What type of reactions is represented by the following equations ?

(a) $CaO + CO_2 \longrightarrow CaCO_3$

(b) $2Na + 2H_2O \longrightarrow 2NaOH + H_2$

(c) $Mg + CuS0_4 \longrightarrow MgSO_4 + Cu$

(d) $NH_4NO_2 \longrightarrow N_2 + 2H_2O$

(e) $CuS0_4 + 2NaOH \longrightarrow Cu(OH)_2 + Na_2SO_4$

Q.5.A solid substance P which is very hard is used in the construction of many buildings, especially flooring. When substance P is heated strongly, it decomposes to form another solid Q and a gas R is given out. Solid Q reacts with water with the release of a lot of heat to form a substance S. When gas R is passed into a clear solution of substance S, then a white precipitate of substance T is formed. The substance T has the same chemical composition as starting substance P.

(a) What is substance P ? Write its common name as well as chemical formula.

(b) What is substance Q ?

(c) What is gas R ?

(d) What is substance S ? What is its clear solution known as ?

(e) What is substance T ? Name any two natural forms in which substance T occurs in nature.

Q.6.Fill in the following blanks with suitable words :

(a) The addition of oxygen to a substance is called …… whereas removal of oxygen is called……

(b) The addition of hydrogen to a substance is called…… whereas removal of hydrogen is called……..

(c) Anti-oxidants are often added to fat containing foods to prevent…….. due to oxidation.

Q.7.(a) Explain the term "rancidity". What damage is caused by rancidity ?

(b) What type of chemical reaction is responsible for causing rancidity ?

(c) State and explain the various methods for preventing or retarding rancidity of food.

Q.8. Write an activity to demonstrate electrolysis of water stepwise.

Q.9. Give the characteristic tests for the following gases.

(i) CO_2 (ii) SO_2 (iii) O_2 (iv) H_2

Q.10. Give two examples from everyday life situation where redox reaction takes place.

(ii) three decomposition reaction in industrial processes.

BIOLOGY

Q.1.Justify the statement "All plants give out oxygen during day and carbon dioxide during night".

Q.2.What is structure of stomatal apparatus? How do the guard cells regulate opening and closing of stomatal pores?.

Q.3.Why do fishes live only when in water?

Q.4.Why nutrition process is necessary for an organism?

Q.5.How leaves of plants are adapted for process of photosynthesis?

Q.6.What will happen if mucus and acid are not secreted by the gastric glands?

Q.7.What is emulsification of fats? What is the significance of it?

Q.8.What is the advantage of having four chambered heart in mammals?

Q.9.Name the energy currency in the living organisms. When and where is it produced?

Q.10.Explain the role of mouth,pancreas and small interstine in digestion of food.

Q.11.Name the correct substrates and product for the following enzymes

(a) Trypsin (b) Amylase (c) Pepsin (d) Lipase

Q.12.Why Plants have low energy needs as compared to animals?

Q.13.What is transpiration? Why is transpiration important for plants?

Explain the process of nutrition in Amoeba along with diagram.

Draw well labelled diagram of human excretory system and explain its structure and function.

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SUBJECT - MATH

NOTE:- Do Board Exercises of 1 to 4 Chapters from P.K. Garg.

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SUBJECT – ENGLISH

1. Read the given extracts and answer the following questions:

1."You are disappointed", Ausable said wheezily over his shoulder. "You were told that I was a secret agent, a spy, dealing in espionage and danger. You wished to meet me because you are a writer, young and romantic. You envisioned mysterious figures in the night, the crack of pistols, drugs in the wine."

a) Who was disappointed and with whom?

(b) Why did 'he' want to meet Ausable?

(c) Why was Fowler disappointed?

(d) How was Ausable different from the other secret agents?

2. He should be snarling around houses
At the jungle's edge.
Baring his white fangs, his claws,
Terrorising the village!

(a) What should he be doing near the houses?

(b) Where are these houses situated?

(c) How would he terrorise the villagers?

(d) Who does 'he' refer to in this stanza?

(e) Which are the rhyming words in this stanza?

3. Well, it's time I did some real work, I told myself, and I'm out of practice. And if I don't take the money, he'll only waste it on his friends. After all, he doesn't even pay me.

(a) What did he tell himself?

(b) Why did Hari decide to steal?

(c) Does Anil pay Hari a regular salary?

(d) What justification does Hari Singh give for stealing Anil's money?

4."I could come and go as I pleased. He was the most trusting person I had ever met".

(a) Other than the freedom of moment what else does the speaker feel happy about?

(b) What does the speaker mean by 'most trusting person'?

(c) Who is the speaker speaking about?

(d) What character traits of the master does this line reveal?

5. ***If strolling forth, a beast you view,***
Whose hide with spots is peppered,
As soon as he has lept on you,
You'll know it is the Leopard.
'Twill do no good to roar with pain,
He'll only lep and lep again.

(a) How is the leopard's skin?

(b) How does a leopard behave when he meets a person?

(c) Will roar with pain help a person when the leopard has attacked him?

(d) Which are the rhyming words in this stanza?

(e) Name the poem and the poet.

6. **Tears showed in her eyes. Her lips trembled ————-"**
how can I ever thank you? This is a triumph of surgery!"

(a) Who was the lady grateful to and why?

(b) What was the 'triumph of surgery'?

(c) Why does Mrs Humphrey think the dog's recovery is 'A Triumph of Surgery'?

(d) Why were tears in her eyes?

2. Answer the following in 30-40 words:

(a) Why was Ausable confident that Max would never return? .

(b) Why was it so difficult for Had Singh to rob a trusting and unsuspecting person like Anil?

(c) How does the tiger terrorise the villagers? Does he have any intention of killing them?

(g) How did Herriot save Tricki's life?

(h) Why did the young seagull cry "Ga, ga, ga"? Did her mother oblige him?

(i) Describe the black clouds from the point of view of the pilot.

(j) Did Hari Singh understand the value of education? How can you prove it?

3. Answer the following in 100-120 words:

a) "You look a bit of a wrestler yourself." I said. A little flattery helps in making friends. Hari Singh believed that a little flattery can help in making friends. Did he lack love and empathy? was his attitude towards friendship acceptable or not? Explain the values one must have to win over true friends in 100-120 words.

b) Wasn't Mrs Pumphrey an overindulgent but silly and impractical mistress?

c) Herriot seems to be a duty-bound doctor who values others 'emotions' than his personal interests. Elucidate the above statement. Mention those values of Herriot which you would like to emulate in yourself also and give reasons for the same. Write your answer in 100-120 words.

d) What is the theme of the poem 'Tiger in a Zoo'?

e) Describe the methods used by the seagull family to help the young seagull overcome his fear and fly.

f) Describe the incident leading to the death of Max.

4. Write a story on the basis of its beginning provided.

It was Saturday, Veena got up late. Her parents had gone to office. Veena remembered that she planned…….

5. You are Kavita Khanna, a resident of 50-C, Pushp Vihar, New Delhi. Write a letter to the editor of India Today, magazine about the article on 'Ban Poly Bags' published in the latest edition.

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SUBJECT: SOCIAL SCIENCE

Q1 What was Flying shuttle?

Q2 Who was a Jobber?

Q3 Why was the images of the god and goddesses appear on the labels?

Q4 How did factories emerge on the landscape of England?

Q5 How rapid was the process of industrialisation in Britain?

Q6 Technological changes occurred slowly in Britain? Give three reasons for this.

Q7 State features of the work of jobber.

Q9 Classify resources on the basis of development with examples.

Q10 The constitution did not use the word 'Federation" but the Indian is based on the principles of federations." Explain.

Q11 Explain the objectives of implementing the NREGA 2005.

Q12 Explain the two main reasons why power sharing is important in a democracy.

Q13 How did India emerge as a federal state?

Q14 Distinguish between 'coming together federation and 'holding together federation' with examples.

Q15 Explain the constitutional amendments of 1992 that compare local governments in India.

Q16 What is Skill development? How does it help in creating employment?

Q17 "Average income is an important criterion for development". Justify.

Q18 Why is the issue of sustainability important for development?

Q19 What are the various ways to provide employment opportunities in rural areas?

Q20 How do we calculate GDP?

Q21 Distinguish between Commercial Farming and Plantation Farming.

Q22 Describe the main three cropping season.

Q23 Agriculture is the mainstay of Indian Economy. Explain this statement.

Q24 Why do we need to have technical and institutional reforms in India?

Q25 Suggest the initiatives taken by the government to ensure the increase in agriculture production.

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विषय – हिन्दी

खण्ड – क

प्र.1 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए –

वस्तुतः क्रोध एक नकारात्मक भाव है। इस तरह के नकारात्मक भावों से मनुष्य के रिश्तों में दरार पड़ जाती है। यह सच है कि क्रोध का प्रारंभ चाहे मूर्खता से ही क्यों न हुआ हो पर उसका अंत पश्चाताप से होता है। हम सब कुछ जानते हुए भी इससे स्वयं को दूर नहीं रख पाते। यदि हम इस पर पूरा नियंत्रण नहीं कर सकते है ंतो भी उसी क्षण उस व्यक्ति की हास्यास्पद तस्वीर मन में बना लें या किसी चुटकुले का पात्र ही उसे बना दें और पेन तथा डायरी लेकर कुछ भी लिखने बैठ जाएँ। कुछ न बनें तो आड़ी – तिरछी रेखाएँ ही खींच लें। धीरे–धीरे कलात्मकता नजर आएगी। विचारों को कविता या लेख में डालने का प्रयत्न करें। इससे आप अपने जीवन की लंबी दौड़ में अधिक सुखी और स्वस्थ रह सकते हैं?

1. क्रोध कैसा भाव है? इसके क्या नुकसान हैं?
2. क्रोध का प्रारम्भ और अंत कैसा होता है?
3. क्रोध पर नियंत्रण कैसे पाया जा सकता है?
4. आड़ी – तिरछी में कौन सा समास है?
5. नकारात्मक का विपरीतार्थक क्या है?

प्र.2 निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दो –

लोहे के पेड़ हरे होंगे, तू गान प्रेम का गाता चल
नम लोगी यह मिट्टी जरूर, आँसू के कण बरसाता चल।
सिसकियों और चीत्कारों से, जितना भी हो आकाश भरा,
कंकालों का हो ढेर, खप्परों से चाहे हो पटी धरा।
आशा के स्वर का भार, पवन को लेकिन, लेना ही होगा,
जीवित सपनों के लिए मार्ग मुर्दों को देना ही होगा।
रंगों के सातों घट उड़ेल, यह अंधियाली रंग जाएगी,
उषा को सत्य बनाने की, जावक नभ पर छितराता चल।
आदर्शों से आदर्श भिड़े, प्रज्ञा पर प्रज्ञा टूट रही,
प्रतिमा – प्रतिमा से लड़ती है, धरती की किस्मत फूट रही।
आवर्तों का है विषम जाल, निरूपाय बुद्धि चकराती है,
विज्ञान यान पर चढ़ी हुई, सभ्यता डूबने जाती है।

1. काव्यांश में 'लोहे के पेड़' से क्या तात्पर्य है?
2. 'खप्परों से चाहे पटी खरा' का आशय स्पष्ट कीजिए।
3. 'नम होगी यह मिट्टी जरूर' द्वारा कवि क्या संदेश देना चाहता है?
4. सभ्यता का विनाश किससे हो रहा है?
5. 'धरा' और 'आकाश' शब्द के दो– दो पर्यायवाची लिखो।

खण्ड – ख

प्र.3 रचना के आधार पर वाक्य भेद बताओ –

1. हमें मुसीबत से घबराना नहीं चाहिए।
2. आप समय पर पहुँच जाएँगे, या याद दिलाऊँ।
3. तुमने जो कहा, वह ठीक है।
4. जल्दी जाओ और काम निपटाकर चले आओ।

प्र.4 निम्नलिखित वाक्यों का वाच्य पहचानकर लिखो –

1. चलो, दौड़ते हैं।
2. मरीज से चला नहीं जाता।
3. मैंने सच बोल ही दिया।
4. वह बाजार जा रही है।

प्र.5 रेखांकित शब्दों का पद – परिचय दीजिए।

1. **वह** पुस्तक पढ़ता है।
2. परिश्रमी **मनुष्य** सफलता प्राप्त करते हैं।
3. **ताजमहल** आगरा में स्थित है।
4. **रामायण** पवित्र पुस्तक है।

खण्ड – ग : पाठ्य पुस्तक

प्र.6 निम्नलिखित प्रश्नों के उत्तर लिखो –

1. कैप्टन को देखकर हालदार साहब को उसके काम के बारे में क्या पता चला?
2. 'नेताजी का चश्मा' कहानी हमें क्या संदेश देती हैं?
3. कैप्टन नेताजी से क्षमा क्यों माँगता था?
4. आपकी दृष्टि में भगत की कबीर पर अगाध श्रद्धा के क्या कारण रहे होंगे?
5. ''बिना विचार, घटना और पात्रों के भी क्या कहानी लिखी जा सकती है'' – यशपाल के इस विचार से आप कहाँ तक सहमत हैं?
6. उद्धव के व्यवहार की तुलना किस – किससे की गई हैं?
7. ''राम – लक्ष्मण – परशुराम संवाद'' के आधार पर राम का चरित्र – चित्रण कीजिए।
8. लक्ष्मण में वीर योद्धा की क्या – क्या विशेषता बताई गई।
9. बच्चों में अनुकरण का गुण सर्वाधिक होता है। एक अच्छा बच्चा बनने के लिए किनका अनुकरण करना चाहिए और किनका नहीं?
10. 'माता का आँचल' शीर्षक की उपयुक्तता बताते हुए कोई अन्य शीर्षक लिखिए।