CLASS X SUMMER VACATION HOMEWORK

MATHS

LEVEL-1

1. If HCF (6, a) = 2 and LCM (6, a) = 60, then find $a^2 + 3a$.

2. Find the greatest number of 5 digits exactly divisible by 12, 15 and 36.

3. Find the smallest number which leaves remainder 8 and 12 when divided by 28 and 32 respectively.

4. Floor of a room is to be fitted with square marble tiles of the largest possible size. The size of the floor is 10 m × 7 m. What should be the size of tiles required that has to be cut and how many such tiles are required?

5. Find HCF of 378, 180 and 420 by prime factorization method.

6. If one zero of the polynomial $5z^2 + 13z - p$ is reciprocal of the other, then find p.

7.If f(x) is a polynomial such that f(a)f(b) < 0, then what is the least number of zeroes lying between a and b?

8. Find all zeroes of the polynomial
$2x^4 – 9x^3 + 5x^2 + 3x – 1$ if two of its zeroes are $(2 + \sqrt{3})$ and $(2 - \sqrt{3})$

9. If α and β are the zeroes of the polynomial $3x^2 - 5x – 2$, then evaluate
i) $\alpha^2 + \beta^2$
ii) $\alpha^3 + \beta^3$

10. If α and β are the zeroes of the polynomial $3x^2 - 5x – 2$ then find the polynomial whose zeroes are 1/ α and 1/ β

11. If one zero of the quadratic polynomial $f(x) = 4x^2 – 8kx + 8x - 9$ is negative of the other then find the zeroes of $kx^2 + 3kx + 2$.

12.Draw the graph of 2x+y=6 and 2x-y+2=0. Shade the region bounded by these lines and x axis. Find the area of the shaded region

13. Find the value of k for which the system of linear equations kx + ky = 12, (k- 3) x + 3y = k will have infinite number of solutions

14. Find the value o f p for which the quadratic equation
$(2p + 1)x^2 - (7p + 2)x + (7p - 3) = 0$ has equal roots . Also find these roots.

LEVEL-2

1. Find the least number that is divisible by all the numbers 1 to 10 (both inclusive).
2. If the LCM of a and 18 is 36 and the HCF of a and 18 is 2 then find the value of a.
3. If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; a, b being prime numbers, then find LCM (p, q).
3)Find the LCM of smallest two-digit composite number and smallest composite number.
4)Prove that $\sqrt{3}+\sqrt{5}$ is Irrational
5)If one zero of the quadratic polynomial x^2+3x+k is 2,then find the value of k
6)If one of the zeroes of the quadratic polynomial $(k-1)x^2+kx+1$ is -3,then find the value of k
7)Find a quadratic polynomial whose zeroes are 3 and -5
8)Find the value of k for which the lines $5x+7y=3$ and $15x+21y=k$ coincides
9)Half the perimeter of a garden,whose length is 4 more than its width is 36m . Find the dimensions of the garden
10)A natural number,when increase by 12, equals 160 times it's reciprocal.Find the number
11)The ratio of income of 2 persons is 9:7 and the ratio of their expenditure is 4:3,if each of them manages to save Rs 2000 per month.Find their monthly income
12)Find the roots of $2x^2-7x+3=0$
13)Find the value of p so that the quadratic polynomial $px(x-3)+9=0$ has equal roots.
14)The sum of the squares of three consecutive positive integers is 50.Find the integers

LEVEL-3

1) Show that $(7x13x11)+11$ and $(7x6x5x4x3x2x1)+3$ are composite numbers.
2) Find the HCF and LCM of 625,1125,2125 using prime factorisation
3)Find the LCM and HCF of 6,72 and 120 using prime factorisation
4) Prove that $\sqrt{3}$ is an irrational number.
5) Given that $\sqrt{3}$ is Irrational, prove that $5+2\sqrt{3}$ is Irrational
6) Find a quadratic polynomial whose one zero is 5 and product of zeroes is 30
7) Find the zeroes of the quadratic polynomial $2x^2-x-6$ and verify the relationship between the zeroes and the coefficients of the polynomial
8)Solve: $2x+3y=11$ and $2x-4y=-24$
9) The sum of the digits of a two digit number is 9.Also 9 times this number is twice the number obtained by reversing the order of the digits.Find the number
10)Five years ago,Nuri was thrice as old as Sonu .Ten years later,Nuri will be twice as old as Sonu.How old are Nuri and Sonu?
11)Check the consistency of the pair of linear equations $2x+3y=5$ and $4x+6y=10$
12)What is the positive real roots of $64x^2-1=0$?
13)Find the roots of the equation of $2x^2-7x+3=0$.
14)If $x=2$ is a solution of the equation $x^2-5x+6k=0$,then find the value of K

MATH'S LAB ACTIVITY: To be done in file

1.To draw the graph of a quadratic polynomial and observe:
(i) The shape of the curve when the coefficient of x^2 is positive.
(ii) The shape of the curve when the coefficient of x^2 is negative.
(iii) Its number of zeroes.

2. To verify the condition of consistency/ inconsistency for a pair of linear equations in two variables by graphical method

SOLVE ALL THE QUESTIONS OF MATHS EXAMPLER FROM CHAPTER 1 TO 4 IN SEPARATE NOTEBOOK

ENGLISH

IMPORTANT INSTRUCTIONS

- MAKE A SEPARATE NOTEBOOK AND DO ALL THE GIVEN HOMEWORK IN IT.
- DO IT IN THE SAME SEQUENCE AS GIVEN.
- TOTAL NO OF QUESTIONS (1-10)

SECTION A-READING

Q1. Read the following passage and answer the questions that follow. (write only questions and answers don't copy passage-text)
A few countries already use powerful electromagnets to build high-speed trains. These trains are called maglev trains. Maglev is the shortened form of magnetic levitation. Maglev trains work on the principles of magnetism and float over a guideway. Magnets have south and north poles. Opposite poles of two magnets attract whereas like poles repel each other. This is the basic principle behind electromagnetic propulsion. Electromagnets are similar to other magnets but their magnetic properties are temporary. They can attract metal objects. It is easy to create

a small electromagnet. You only have to connect the ends of copper wire to the negative and positive ends of an AA, C or Dcell. This creates a small magnetic field around the cell. If either end of the wire is removed from the cell, the magnetic field will also disappear. The maglev train system works on the principles of electromagnetism. There are three components to a maglev train system: a large electrical power source, a track with metal coil lining and train cars with huge guidance magnets attached to their underside. The maglev train is different from a conventional train in that it does not have an engine. At least it does not have the kind of engines that pull train cars along steel tracks. It does not consume fossil fuels either. The magnetized coils running along the guideway (track) repel the powerful magnets on the underside of the train. This repulsion causes the train to levitate 1 to 10 cm above the guideway. After levitating the train, power is supplied to the coils within the guideway walls. This creates a unique system of magnetic fields that push and pull the train along the guideway. Since maglev trains float in the air, there is no friction between the train and the track. This lack of friction and the aerodynamic design of these trains allow them to reach speeds of over 500 kilometres per hour. At that speed, you can travel from Rome to Paris in less than 2 hours. Japan and Germany pioneer research in the maglev train technology. They have already built their prototypes and are in the process of testing them. Transrapid is an 2/4 electromagnetic suspension system developed by German engineers. The idea of maglev transportation has been in existence for over a century. The first commercial maglev train made its debut in Shanghai, China in 2002. This train was
developed by a German company. Right now the Shanghai Transrapid line connects Longyang Road station and Pudong airport. China is planning to extend this line to Hangzhou by building a 99 miles guideway. Several other countries are also planning to build their maglev train system, but right now the Shanghai maglev train is the only commercial maglev line.

Answer the following questions

1.1. The two main differences between maglev trains and conventional trains are:
…….

1.2. Maglev trains are environment friendly because ……

1.3. The two nations that lead the research in maglev train technology are
……..

1.4. The two factors that help maglev trains to achieve high speeds are
…….

1.5. The first country to have a commercial version of the maglev train technology
…….

1.6 Find words in the passage that mean

1.6 a) forward movement: …….

1.6 b) float in the air: ……..

1.6 c) profit-oriented: ……..

1.6 d) traditional: …….

1.6 e) parts: ……

Q2. Read the passage given below and answer the questions that follow. (write only questions and answers don't copy passage-text)

One day Gandhiji and Vallabhbhai Patel were talking when Gandhiji remarked, 'At times even a dead snake can be useful.' And he narrated the following story to illustrate his point. Once, a

snake trespassed into the house of an old woman. She was frightened and cried out for help. Hearing her loud cries, the neighbours rushed in and killed the snake. Then they went back to their homes. Instead of throwing the dead snake far away, the old woman flung it on to her roof. Sometime later, a kite was flying overhead when it spotted the dead snake. The kite was holding a pearl necklace in its beak. When it saw the dead snake, it dropped the necklace on the roof and flew away with the dead snake. When the old woman saw a bright, shining object on her roof, she pulled it down with the help of a pole. When she found that it was a pearl necklace, she danced with immense joy. One day a trader
found a snake in his house. He couldn't find anyone to kill it for him and hadn't the courage to kill it himself. Besides, he hated killing any living creatures. So he covered the snake with a pot and left it there. As luck would have it, that night some thieves broke into the trader's house. They entered 3/4 the kitchen and saw the overturned pot. 'Ah', they thought, 'the trader has hidden something valuable here.' As they lifted the pot, the snake hissed and the thieves ran for their life.

Read the given questions and write the answer in a sentence.

2.1. Why did the woman cry out for help?

2.2. What did the kite do when it saw the dead snake on the roof?

2.3. How did the live snake help the trader?

2.4. Why was the old woman happy?

2.5. Find the word from the passage which means

(a) to make the meaning of something clear

(b) a long thin straight piece of wood/metal

Q3. Read the passage given below and answer the questions that follow. (write only questions and answers don't copy passage-text)

Many years ago, when the art of stunting plants was quite unheard of except in remote areas of India, Buddhist monks in isolated monasteries in Tibet stunted trees like oak and orange. They watched with excitement the trees flowering and bearing fruit regardless of this 'deformity'. The trees looked so artistically beautiful and enchanted everyone. Some Chinese monks learnt the art from Tibetan monks and soon 'Bonsai' making became a popular hobby and art in China and every garden had at least six bonsais. India and China claimed rights to the art till Japan followed enamoured by its beauty. Today Japan leads in Bonsai making and has invented new methodologies to make the plants look aesthetic and artistic. The most beautiful is the breathtakingly attractive cherry blossom. Bonsais need constant pruning, watering, shaping and correct environment. The trees can be planted in colourful containers of your choice. Numerous schools have mushroomed where the art is taught and cultivated. Best known among them is the Indian Bonsai Association. India has a great demand for bonsais. Hotels, homes, farmhouses, restaurants and guesthouses use these decorative plants to adorn their lobbies, dining halls and drawing rooms. It is aptly said that a thing of beauty is a joy forever. Indeed the bonsai lasts in one's imagination long after the plant has lived its life span. Bonsai gardeners use methods including wiring branches, extreme pruning of roots and branches, root binding, grafting and custom soil and cinder mixtures. But perhaps the most important element of all is patience. Instructions for achieving the 'roots over rock' effect give insight into the work of a bonsai artist: trim the

roots, place the rock, bind roots, then re-pot and wait for two years. Often a bonsai is created by many hands over the years – a highly-priced tree is one where the hand and the ego of the artist become invisible as in the Zen concept of 'artless art'.
Answer these questions based on the above text:
3.1. Who first began to stunt trees and plants?
3.2. Which bonsai is breathtakingly beautiful?
3.3. Which country leads in the art of stunting today? 4/4
3.4. How can we take care of bonsais?
3.5. Name a few places where bonsais are used for decoration
3.6 The word 'enamoured' means ……..

Q4. Fill in the blanks with the appropriate form of the verb.
1. I could ——————— her if I wanted to.
a) have married b) marry c) married d) be marrying
2. Does she ———————- what she is doing?
a) knows b) know c) knew d) had known
3. When I visited him he ——————— bed-ridden for two months.
a) was b) has been c) had been d) were
4. I ——————— school last year.
a) left b) had left c) leaved d) was leaving
5. There ——————— a famine in Bengal in 1982.
a) was b) has been c) were d) had been
6. Akbar ——————————— the Moghul power paramount in India.
a) had made b) has made c) made d) would make
7. John has ———————- home.
a) went b) go c) gone d) going
8. She ——————— for Delhi this evening.
a) is leaving b) was leaving c) have been leaving d) had left
9. Heat ———————- bodies.
a) expanded b) would expand c) expands d) is expanding
10. We ——————————— living here since 1990.
a) were b) are c) have been d) had been Q5. Change the following sentences into Indirect speech:
1. He said, "I am fine."
2. She truly said, "No one can live without water."
3. My friend said, "I have been to England thrice."
4. He said, "I will be in Mumbai tomorrow." 5. He said to me, "How much money do you have?"
6. She said to Boby, "Please give me a glass of water."
7. Ayansh said, "Fantastic! We have won the match."
8. She said to Mayank, "Whom will you meet today?"
9. He said, "How many people are here?" 10. My boss said to me, "Don't come inside the room."
Q6. You are Radha/Gaurav, member of NGO AWAAZ. Write a letter to the editor of a national daily for a public movement to clean the Yamuna river. (You must introduce yourself, describe

how the people are to be blamed for polluting the river and suggest the need for installing water treatment plant to clean the river).
Q7. Write a letter to M/s. Oxford Publishing House, London complaining that the books sent by them were not those you had ordered for. Ask for a replacement. You are Varun Joshi, Sector-20, Chandigarh.
Q8.Write a letter to M/S Verma Confectionary WZ-17/3, sector 14 Delhi road Gurgaon for placing orders for some eatables and decoration items for your sister's birthday party to be held next week.
Q9.By 2050, India will be amongst the countries which will face acute water shortage. You are highly alarmed and terrified of the future world without water. So, write a paragraph on "Save water- are we doing enough?" in 100-120 words.
Q10. LEARN ALL THE CHAPTERS COMPLETED SO FAR.

Read first, second, third chapters of 'footprints without feet'. Answer the following questions based on your reading.
CH1: A TRIUMPH OF SURGERY
Read the following extract and answer the following questions in your notebook.
1. I tried to sound severe: "Now! really mean this. If you do not cut his food right down and give him more exercise, he is going to be really ill. You must harden your heart and keep him on a very strict diet". A. Why did the speaker try to sound severe?
B.For whom was the advice given and why?
C.Find the word in the extract which is a synonym of the word 'serious.
D.What is the antonym of 'hardened'?
2."Poor old lad", I said. "You haven't a kick in you, but I think I know a cure for you".
A. Why does the speaker say "poor old lad".
B.What cure did the speaker know?
C.What is the meaning of 'a kick' in the extract?
D.Write a synonym of 'cure.
SHORT QUESTIONS
1.Why is Mrs Pumphrey worried about Tricki?
2.Why does Mrs Pumphrey think the dog's recovery is "a triumph of surgery"?
3.Give a brief character sketch of Tricki and Mrs Pumphrey.
LONG QUESTION
1."Kids or cubs need fondling but too much pampering may harm them". How far does it apply in the case of Tricki? Excess of everything is bad. Comment in the wake of Mrs Pumphrey's love for Tricki.

CH2: THE THIEF'S STORY
1.Well, it's time I did some real work, I told myself; I'm out of practice.
A. What 'real work' is the speaker talking about?
B.Why does the speaker say 'I'm out of practice'?
C.Give a synonym of 'practice'.
D.What part of speech is the word 'real' in the extract?

2.When the train had gone, I found myself standing alone on the deserted platform. I had no idea where to spend the night. I had no friends.
A.Why was the speaker standing alone on the platform?
B.Why did he not have any friends?
C.Which word in the extract is an antonym of the word ‘crowded’?
D.What does ‘deserted’ mean?
SHORT QUESTIONS:
1.What made Hari Singh go back to Anil’s house?
2.What did Anil and Hari agree upon to be the mode of payment?
LONG QUESTION:
1.Money can’t make a man as much as education can. Elucidate the statement.

CH3: The Midnight Visitor
Question 1.
And then there was his accent. Though he spoke French and German passably, he had never altogether lost the American accent he had brought to Paris from Boston twenty years ago.
(a) Who is ‘he’ in the above extract?
(b) Where is he at present?
(c) Find the word from the extract that means the opposite of ‘fluently’.
Question 2.
“You are disillusioned”, Ausable told him. “But take cheer, my young friend. Presently you will see a paper, a quite important paper for which several men and women have risked their lives, come to me. Some day soon that paper may well affect the course of history. In that thought is drama, is there not?”
(a) Who is ‘my young friend’ in the above extract?
(b) What is the ‘important paper’ referred to here?
(c) Find a word from the passage that means the same as ‘disappointed’.
SHORT QUESTIONS:
1. What made the story of the balcony so convincing?
2. How did Max go out of Ausable’s room to save himself from the police?
3.. How did Ausable kill Max without using a weapon?
4.How was Ausable different from the other secret agents?

LONG QUESTION:
1.With reference to `The Midnight Visitor’, do you think the presence of mind should be developed and to what advantage? Elaborate highlighting the values possessed by Ausable.

हिन्दी

ग्रीष्मकालीन अवकाश हेतु गृहकार्य

कक्षा 10

स्तर १

1- पढ़ाए गए पाठ के प्रश्नोत्तर याद कीजिए।

2- कोई 20 वाक्य लीजिए उन्हीं 20 वाक्यों को सरल, मिश्र तथा संयुक्त में बदलकर लिखिए।

3- अपने आस-पास की समस्याओं की एक सूची बनाए तथा उन्हीं में से किसी पांच पर सारगर्भित अनुच्छेद निष्कर्ष सहित लिखिए।

4- ऑनलाइन खरीदारी के समय गलत सामान की प्राप्ति की शिकायत करते हुए उस वेबसाइट को एक ईमेल लिखिए।
-आपकी सोसाइटी की सड़क टूटी हुई है इसकी मरम्मत हेतु शहर के नगर निगम को ई-मेल लिखिए।
5- अपनी अभ्यास पुस्तिका घर भूल जाने पर अपने विषय अध्यापक से क्षमा प्राप्ति हेतु प्रार्थना पत्र लिखो।

6- आपने अपना नया कंप्यूटर प्रशिक्षण केंद्र खोला है। यहाँ प्रवेश लेने के लिए शिक्षार्थी आकर्षित हों, इसके लिए एक विज्ञापन तैयार कीजिए।

7- ग्रीष्मकालीन अवकाश मे आप जहां कहीं भी घूमने गए उस यात्रा का विवरण अपने शब्दों में लिखिए

8- बाल गोविंद भगत गंगा स्नान के लिए जाते समय रास्ते में अगर हालदार साहब से मिले होते तो उनकी मध्य किस प्रकार का संवाद होता। कम से कम 10 वाक्यों में लिखिए।

स्तर २

1.पढ़ाए गए पाठ के प्रश्नोत्तर याद कीजिए।
2- कोई 20 वाक्य लीजिए उन्हीं 20 वाक्यों को सरल, मिश्र तथा संयुक्त में बदलकर लिखिए।
3-अपनी अभ्यास पुस्तिका घर भूल जाने पर अपने विषय अध्यापक से क्षमा प्राप्ति हेतु प्रार्थना पत्र लिखो।

4- सूरदास जी के बारे में 5 पंक्तियाँ लिखिए।
5- आप एक योग प्रशिक्षण केंद्र खोलना चाहते हैं। इस संबंध में युवाओं को आकर्षित करने वाला एक विज्ञापन तैयार कीजिए।

6- छात्रावास में रह रहे अपने भाई को व्यायाम के फायदे बताते हुए ईमेल लिखिए।
7-अपनी किसी यात्रा का विवरण अपने शब्दों में लिखिए।

8-सामाजिक समस्या पर आधारित किन्ही पांच विषयों पर अनुच्छेद लिखिए।

SST

LEVEL 1

1. Make 20 Mcq from each chapter his 1 civ1 geo 1 and eco 1 (with the help of oswal book)(in your notebook) .
2. Every student has to compulsorily undertake one project on these topic (as given by Cbse)
   1.Consumer awareness (a pdf will be given as a sample)
   2.Social issues
   3. Sustainable development
3. Portfolio - student details(with photo in uniform)
Geo ch 1 map (types of soil)
You will be a given a pdf of a test 2 (his ch 1 , geo ch 1 and 2 civ ch 1 and 2)

(Attach all these in your portfolio)
4. Revision for pt 1 - civ ch 1 ,civ ch 2 , geo ch 1 ,his ch 1 ,eco ch 1 .

Level 2

1.Every student has to compulsorily undertake one project on these topic(as given by Cbse)
   1.Consumer awareness (a pdf will be given as a sample)
   2.Social issues
   3.Sustainable development
3. Portfolio - student details(with photo in uniform)
Geo ch 1 map (types of soil , make 20 MCQ from ch (sectors , federalism, 10 MCQ from ch 2 geo forest and wildlife resources) (with help of oswal book)
4. Revision for pt 1 - civ ch 1 ,civ ch 2 , geo ch ch1 ,his ch 1 ,eco ch 1 .
5. Make 20 Mcq from each chapter his 1 civ1 geo 1 and eco 1 (in your notebook).

Note
Oswal book pdf will be given for MCQ .
And test paper for level 1 will be given as pdf later in the group .

SCIENCE

Level 1
Short answers
1. Name the following
(a) The process in plants that links light energy with chemical energy
(b) Organisms that can prepare their own food
(c) The cell organelle where photosynthesis occurs
(d) Cells that surround a stomatal pore

(e) Organisms that cannot prepare their own food
(f) An enzyme secreted from gastric glands in stomach that acts on proteins.
2. Why is blood circulation in human heart called double circulation?
3.. How are power and focal length of a lens related? You are provided with two lenses of focal length 20 cm and 40 cm respectively. Which lens will you use to obtain more convergent light?
4. Under what condition in an arrangement of two plane mirrors, incident ray and reflected ray will always be parallel to each other, whatever may be angle of incidence. Show the same with the help of diagram.
5. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case.
(a) Nitrogen gas is treated with hydrogen gas in the presence of a catalyst at 773K to form ammonia gas.
(b) Sodium hydroxide solution is treated with acetic acid to form sodium acetate and water.
(c) Ethanol is warmed with ethanoic acid to form ethyl acetate in the presence of concentrated H_2SO_4
(d) Ethene is burnt in the presence of oxygen to form carbon dioxide, water and releases heat and light.
6. Identify the reducing agent in the following reactions
(a) $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$
(b) $H_2O + F_2 \rightarrow HF + HOF$
(c) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$
(d) $2H_2 + O_2 \rightarrow 2H_2O$

Level 2

Short Answers
1.Plants have low energy needs as compared to animals. Explain.
2.How do leaves of plants help in excretion?
3. Name the correct substrates for the following enzymes
(a) Trypsin (b) Amylase
(c) Pepsin (d) Lipase
4. Write the balanced chemical equations for the following reactions
(a) Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen carbonate.
(b) Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.
(c) Copper sulphate on treatment with potassium iodide precipitates cuprous iodide (Cu_2I_2)liberates iodine gas and also forms potassium sulphate.

5.A pencil when dipped in water in a glass tumbler appears to be bent at the interface of air and water. Will the pencil appear to be bent to the same extent, if instead of water we use liquids like, kerosene or turpentine. Support your answer with reason.
6.Define power of a lens. What is its unit? One student uses a lens of focal length 50 cm and another of –50 cm. What is the nature of the lens and its power used by each of them?

Level 3

Short Answers

1.. If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your answer.
2.In each of the following situations what happens to the rate of photosynthesis?
(a) Cloudy days
(b) No rainfall in the area
(c) Good manuring in the area
(d) Stomata get blocked due to dust.
3. Identify the device used as a spherical mirror or lens in following cases, when the image formed is virtual and erect in each case.
(a) Object is placed between device and its focus, image formed is enlarged and behind it.
(b) Object is placed between the focus and device, image formed is enlarged and on the same side as that of the object.
(c) Object is placed between infinity and device, image formed is diminished and between focus and optical centre on the same side as that of the object.
(d) Object is placed between infinity and device, image formed is diminished and between pole and focus, behind it.
4. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.
5.Write a balanced chemical equation for each of the following reactions and also classify them.
(a) Lead acetate solution is treated with dilute hydrochloric acid to form lead chloride and acetic acid solution.
(b) A piece of sodium metal is added to absolute ethanol to form sodium ethoxide and hydrogen gas.
(c) Iron (III) oxide on heating with carbon monoxide gas reacts to form solid iron and liberates carbon dioxide gas.
d) Hydrogen sulphide gas reacts with oxygen gas to form solid sulphur and liquid water.
6. How is the refractive index of a medium related to the speed of light? Obtain an expression for refractive index of a medium with respect to another in terms of speed of light in these two media?

*Long answers is to be done by all the three levels .

Long answer

1.Draw the diagram of alimentary canal of man and label the following parts.

Mouth, Oesophagus, Stomach, Intestine

2.How do carbohydrates, proteins and fats get digested in human beings?

3.Describe the flow of blood through the heart of human beings.

4.Explain the mechanism of photosynthesis.

5. Explain the three pathways of breakdown in living organisms.

6.Draw a ray diagram showing the path of rays of light when it enters with oblique incidence

(i) from air into water;

(ii) from water into air.

Write laws of refraction.

7.Draw ray diagrams showing the image formation by a concave mirror when an object is placed

(a) between pole and focus of the mirror

(b) between focus and centre of curvature of the mirror

(c) at centre of curvature of the mirror

(d) a little beyond centre of curvature of the mirror

(e) at infinity

9. Draw ray diagrams showing the image formation by a convex lens when an object is placed

(a) between optical centre and focus of the lens

(b) between focus and twice the focal length of the lens

(c) at twice the focal length of the lens

(d) at infinity

(e) at the focus of the lens

10. Give the characteristic tests for the following gases

(a) CO_2

(b) SO_2

(c) O_2

(d) H_2

11. 42. What happens when zinc granules are treated with dilute solution of H_2SO_4, HCl, HNO_3, NaCl and NaOH, also write the chemical equations if reaction occurs.

12. You are provided with two containers made up of copper and aluminium. You are also provided with solutions of dilute HCl, dilute HNO_3, $ZnCl_2$ and H_2O. In which of the above containers these solutions can be kept? You are provided with two containers made up of copper and aluminium. You are also provided with solutions of dilute HCl, dilute HNO_3, $ZnCl_2$ and H_2O. In which of the above containers these solutions can be kept?

ARTIFICIAL INTELLIGENCE

SOLVE THE FOLLOWING QUESTION

1._____ help us to make our work easier and more comfortable.
2._____ means man-made, which does not occur naturally.
3. The ability to perceive or infer information, and to retain it as knowledge to be applied towards adaptive behaviours within an environment or context is known as _____.
4. The ability to regulate, measure, and understand numerical symbols, abstraction and logic is known as _____
5._____ refers to language processing skills both in terms of understanding or implementation in writing or verbally.
6. Which of the following can be defined as the ability to perceive the visual world and the relationship of one object to another?
7. The ability that is related to how a person uses his limbs in skilled manilr is known as naturalist intelligence.
8. A person's ability to recognize and create sounds, rhythms, and sound patterns is known as Musical Intelligence.
9. If a person is well aware of self weakness and strengths or own feelings is known as _____ intelligence.
10. An additional category of intelligence relating to religious and spiritual awareness is known as Existential Intelligence.
11. The ability to communicate with others by understanding other people's feelings influence the person is known as _____ intelligence.
12. The machine's ability to mimic human traits such as making decisions, predicting the future, learning and improving is known as _____.
13. AI can be used in games to the encouragement of gamers.
Which of the following is the very first humanoid robot?
14. All smart devices are considered AI-enabled devices.
15. Which of the following is not AI?
16._____ is a subset of Artificial Intelligence which enables machines to improve at tasks with experience (data).
17. What do you mean by Intelligence?
18. List out the types of intelligence.
19. What is artificial intelligence?
20. Write some popular AI apps and tools.
21. What do you mean by machine learning?
22. What do you mean by deep learning?

विषय- संस्कृतम्

(Level -1)

1) पञ्च-अपठित-अनुच्छेदानां प्रश्नोत्तरलेखनम् ।

2) पञ्च- चित्रवर्णनम् कुरुत ।

3) पञ्च- पत्रलेखनम् ।

4) 50 सरलहिन्दीवाक्यानां संस्कृते अनुवाद: ।

5) पाठ्यक्रमस्थ अव्ययपदानाम् अर्थं लिखित्वा वाक्यानि रचयत ।

6) प्रतिदिनं संस्कृतपाठ्यपुस्तकस्य एकं पृष्ठम् (01 page) अवश्यं पठन्तु ।

7) Watch the Video of समय-लेखनम् https://youtu.be/Gl6m64hXApE and solve the following -:

(क)

(i) पुरुषोत्तम-एक्सप्रेस इति रेलयानं _____ (9:30) वादने पुरीतः प्रस्थानं करोति।

(ii) चेतक-एक्सप्रेस इति रेलयानं _____ (4:45) वादने दिल्लीम् आगच्छति।

(iii) हावड़ा-एक्सप्रेस _____ (11:00) वादने हावडास्थानकं प्राप्नोति।

(iv) रेलयानमेकं _____ (8:15) उत्तराञ्चलं प्रति गच्छति।

(ख)

(i) राहुलः प्रातभ्रमणाय _____ (6:15) वादने उद्यानं गच्छति।

(ii) मल्लिका _____ (7:30) वादने प्रातराशं करोति।

(iii) अनन्या _____ (5:45) वादने क्रीडति।

(iv) सर्वे _____ (10:00) वादने शयनं कुर्वन्ति।