



**DALMIA VIDYA MANDIR**

**RAJGANGPUR**

[www.dalmiavidyamandir.education](http://www.dalmiavidyamandir.education)



Dalmia Vidya Mandir, Chirawa



2024-25  
**SUMMER  
FUN WORK**



**CLASS  
IX**



## **DALMIA VIDYA MANDIR, RAJGANGPUR**

**(56 years of excellence)**

(A CBSE English Medium Senior Secondary School, Affiliation No-1530001)

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Dear Parents,

Warm greetings from Dalmia Vidya Mandir!

We trust this letter finds you and your family in good health. As the summer break nears, we're delighted to share that our dedicated team, under the guidance of the Principal and Dr. Rosetta Williams (CEO, DVM group of schools), has curated summer assignments for your child.

These assignments, covering all subjects, aim to keep your child engaged in learning and prepare them for the upcoming academic year. They offer opportunities for exploration, skill development, and maintaining a learning routine during the break.

Your support in ensuring your child completes and submits these assignments to the respective class teacher on the first day of school reopening after the break is greatly appreciated. It will contribute to a positive start to the academic year and reinforce the knowledge acquired during the break.

For any queries or concerns, please reach out to the class teachers. Thank you for your ongoing support and involvement in your child's education. We eagerly anticipate a productive and successful academic year ahead.

Educationally yours,

Principal & Team

DVM, Rajgangpur

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## **ENGLISH**

Q1. Read the passage given below.

1. At a time when the use of fossil fuels to power vehicles is making environmentalists angry, an alternative source of fuel — biodiesel — has emerged as a useful solution. Additionally, its use solves a disposal problem. The fuel is nothing but used vegetable oil which has been tested satisfactorily. It has made a vehicle called the Veggie Van (a motor home) run more than 16000 km across the United States. Also, it has visited 20 major cities, causing absolutely no harm to the environment. Vegetable oils from various restaurants in America were all that used along the entire journey. The novel experiment was started as a college project by two students, Joshna and Kaia. It eventually ended in a massive public awareness programme.

2. The idea of using vegetable oil as fuel for a diesel engine first occurred to them when they visited a traditional farm in picturesque Southern Germany where vehicles fuelled by vegetable oil were in use. While studying agriculture and living on these farms, they noticed that farmers were always filling vehicle tanks with a yellow liquid. “This fuel comes from the canola plants which grow on our farms and nearby areas. We use it in place of diesel and it smells good”, farmers said. The process of converting vegetable oil into biodiesel fuel is cheap and easy to carry out. Any vegetable oil, such as used cooking oil, methanol or clear alcohol can be used as fuel.

3. The diesel engine which is being used can run on alternate vegetable oil or biodiesel without any modification. Not only does biodiesel require zero modifications to the engine, this fuel works either by itself or blended with petroleum diesel. Biodiesel has since been recognised as an official alternative fuel in the US. Its use by the bus and truck fleet has soared by more than 100%. (305 words)

Attempt the following questions on the basis of the passage you have read. Write the answer in the space provided.

(i) What useful solution has been discovered as an alternative source of fuel?

(ii) How can it be said that biodiesel fuel works? Give one example.

(iii) How did this novel experiment start?

(iv) What was the end of the novel experiment?

(v) What was noticed by these college students when they were living on farms?

(vi) Where is this fuel obtained from?

(vii) Name the fuels on which a diesel engine can run.

(viii) How did Americans give importance to biodiesel?

(ix) What has U.S. recognised as official alternative fuel?

(x) Give a suitable title to the passage

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Q2. You are Kavya/ Kavish of Class IX. You recently met a famous television personality. Make a diary entry using the given clues on what you learnt from the meeting and also state how you felt (100 words). Write the answer in the space provided

Met a star — got the opportunity due to lucky draw — man of modern thinking — hardworking — calm and composed — felt inspired

Q3. Parents and children often complain of the generation gap that leads to family strife and social maladjustment. Write an article titled 'Bridge the Gap' in 100 words. You can take hints from the following clues. You are Sumit/Somya of class IX. Write the answer in the given space.

- Mutual respect, tolerance and acceptance
- Understanding
- Patience
- Stressful and competitive environment

Q4. Write a story in 150 words with the help of following outline. Write in the space provided.

Rohit alone in house — telephone rang — enquiry about parents — sudden disconnection — knocking on the front door — burly heavy man — break the door—return of parents — burglar disappear.

Q5. Fill in the blanks in the paragraph given below with the help of the options that follow.

Last year I employed Sameer as (a).... secretary and went (b) ..... a tour around the United States. He kept (c) ..... working even (d) ..... the snowy weather when he (e) ..... to leave his bike at home and walk everywhere with the papers.

(a) (i) my (ii) a (iii) the (iv) any

(b) (i) in (ii) on (iii) by (iv) to

(c) (i) in (ii) at (iii) on (iv) out

(d) (i) in (ii) with (iii) at (iv) during

e) (i) had (ii) has (iii) wanted (iv) ought

Q6. Read the extracts given below and answer the questions that follow.

Margie was scornful. "School? What's there to write about school? I hate school." Margie always hated school, but now she hated it more than ever. The mechanical teacher had been giving her test after test in geography and she had been doing worse and worse until her mother had shaken her head sorrowfully and sent for the County Inspector.

(i) Why was Margie scornful?

(ii) Why did Margie start hating school?

(iii) What can be done to make the school lovable to children?

(iv) What did the County Inspector do?

Q7. Answer the following questions in 100-150 words.

“What sweet would you like, child!” he asked. The child turned his face from the sweet shop and only sobbed, “I want my mother, I want my father.”

The lost child was going through the despair of separation from his parents. Now, he had lost interest in the things which had attracted him earlier. Learning moral values from this story, write a letter to your friend telling him the importance of parents in one's life.



## HINDI

### I. अपठित गद्यांश को पढ़िए और उचित विकल्पों का चयन करके उत्तर दीजिए –

सूखा आम का पेड़ राह पर खड़ा है, सदा से ढूँठ नहीं है। दिन थे जब वह हरा भरा था और उस जनसंकुल चौराहे पर अपनी छतनार डालियों से बटोहियों की थकान अनजाने दूर करता था। पर मैंने उसे सदा ढूँठ ही देखा है। पत्रहीन, शाखाहीन, निरवलंब, जैसे पृथ्वी रूपी आकाश से सहसा निकलकर अधर में ही टंग गया हो। रात में वह काले भूत-सा लगता है, दिन में उसकी छाया इतनी गहरी नहीं हो पाती जितना काला उसका जिस्म है और अगर चितेरे को छायाचित्र बनाना हो तो शायद उसका-सा 'अभिप्राय' और न मिलेगा। प्रचंड धूप में भी उसका सूखा शरीर उतनी ही गहरी छाया जमीन पर डालता जैसे रात की उजियारी चांदनी में। जब से होश सँभाला है, जब से आँख खोली है, देखने का अभ्यास किया है, तब से बराबर मुझे उसका निस्पंद, नीरस, अर्थहीन शरीर ही दिख पड़ा है।

पर पिछली पीढ़ी के जानकार कहते हैं कि एक जमाना था जब पीपल और बरगद भी उसके सामने शरमाते थे और उसके पत्तों से, उसकी टहनियों और डालों से टकराती हवा की सरसराहट दूर तक सुनाई पड़ती थी। पर आज वह नीरव है, उस चौराहे का जवाब जिस पर उत्तर-दक्षिण, पूरब-पश्चिम चारों ओर की राहें मिलती हैं और जिनके सहारे जीवन अविरल बहता है। जिसने कभी जल को जीवन की संज्ञा दी, उसने निश्चय जाना होगा की प्राणवान जीवन भी जल की ही भांति विकल, अविरल बहता है। सो प्राणवान जीवन, मानव संस्कृति का उल्लास उपहार लिए उन चारों राहों की संधि पर मिलता था जिसके एक कोण में उस प्रवाह से मिल एकांत शुष्क आज वह ढूँठ खड़ा है। उसके अभाग्यों परंपरा में संभवतः एक ही सुखद अपवाद है – उसके अंदर का स्नेहरस सूख जाने से संज्ञा का लोप हो जाना। संज्ञा लुप्त हो जाने से कष्ट की अनुभूति कम हो जाती है।

प्रश्न 1 -जनसंकुल का क्या आशय है?

- i) जनसंपर्क
- ii) भीड़भरा
- iii) जनसमूह
- iv) जनजीवन

प्रश्न 2 -आम की छतनार डालियों के कारण क्या होता था?

- i) यात्रियों को ठंडक मिलती थी
- ii) यात्रियों को विश्राम मिलता था
- iii) यात्रियों की थकान मिटती थी
- iv) यात्रियों को हवा मिलती थी

प्रश्न 3 -शाखाहीन, रसहीन, शुष्क वृक्ष को क्या कहा जाता है?

- i) नीरस वृक्ष
- ii) जड़ वृक्ष
- iii) ढूँठ वृक्ष
- iv) हीन वृक्ष

प्रश्न 4 -आम के वृक्ष के सामने पीपल और बरगद के शरमाने का क्या कारण था?

- i) उसका अधिक हरा-भरा और सघन होना
- ii) हवा की आवाज सुनाई देना
- iii) अधिक फल फूल लगना
- iv) अधिक ऊँचा होना

प्रश्न 5 -आम के अभागेपन में संभवतः एक ही सुखद अपवाद था –

- i) उसका नीरस हो जाना
- ii) संज्ञा लुप्त हो जाना
- iii) सूख कर ढूँठ हो जाना
- iv) अनुभूति कम हो जाना

खंड - ख

प्रश्न 6. शब्दांश जो किसी शब्द के आरंभ में जुड़कर उसके अर्थ में परिवर्तन ला देते हैं उन्हें ..... कहते हैं।

- (i) प्रत्यय (ii) उपसर्ग (iii) दोनो (iv) कोई भी नहीं

प्रश्न 7. 'अभिजात' शब्द में मूल शब्द है?

- (i) अभि (ii) अभी (iii) जाता (iv) जात

प्रश्न 8. 'लड़ाई' शब्द में किस प्रत्यय का प्रयोग हुआ है?

- (i) आई (ii) ई (iii) लड़ (iv) अई

प्रश्न 9 – 'झाड़ू' शब्द में किस प्रत्यय का प्रयोग हुआ है?

- (i) आड़ू (ii) अड़ू (iii) ऊ (iv) उ

प्रश्न 10 – 'वास्तविक' शब्द में किस प्रत्यय का प्रयोग हुआ है?

- (i) विक (ii) इक (iii) वा (iv) वास

प्रश्न 11 – 'भारतीय' शब्द में किस प्रत्यय का प्रयोग हुआ है?

- (i) ईय (ii) तीय (iii) भार (iv) भारत

प्रश्न 12 – निम्नलिखित शब्दों में से उस शब्द को चुनिए, जिसमें अनुस्वार का प्रयोग उचित स्थान पर हुआ है –

- (i) गणतंत्र (ii) ध्वनिया (iii) गणतंत्र (iv) ध्वनियां

प्रश्न 13 – 'सम्बन्ध' शब्द में सही अनुस्वार के मानक रूप चुनिए –

- (i) सबध (ii) संबध (iii) संबंध (iv) सबंध

प्रश्न 14 – निम्नलिखित शब्दों में से उस शब्द को चुनिए, जिसमें उचित स्थान पर अनुनासिक का प्रयोग हुआ है –

- (i) साँतवा (ii) ध्वनिया (iii) सातवाँ (iv) अंध

प्रश्न 15 – सही अनुनासिक प्रयोग वाले शब्द को चुनिए –

- (i) मुंह (ii) मुँह (iii) मुहँ (iv) मुहं

प्रश्न 16- निम्नलिखित संकेत बिंदुओं के आधार पर लगभग 120 से 150 शब्दों में अनुच्छेद लिखिए ।

(i) मानवता सबसे श्रेष्ठ धर्म

संकेत बिंदु-

- मानवता क्या है ?
- महापुरुषों का उल्लेख
- लाभ

(ii) आज की युवा पीढ़ी

संकेत बिंदु-

- भौतिकता की ओर आकर्षण
- भारतीय संस्कृति के प्रति घटती आस्था
- कुछ कर गुजरने की हिम्मत

## **SANSKRIT**

1. संस्कृतेन संख्या लेखनम्-(1-100)

2.शब्दरूपलेखनम्-(जाया, सरस्वती, हरि, शिशु)

जाया

सरस्वती

हरि

शिशु

3.धातुरूपलेखनम्-(चल्, स्था) ।

चल्

स्था



#### 4. संस्कृतेन अनुवादं कुरुत -

- i) वह मेरा घर है । 3.- ..... ।
- ii) यह रितेश की पुस्तक है । 3.- ..... ।
- iii) सीमा गाना गाती है । 3.- ..... ।
- iv) मैंने पुस्तक पढ़ी । 3.- ..... ।
- v) राधा कल घर जाएगी । 3.- ..... ।
- vi) संस्कृत सभी भाषाओं की जननी है । 3.- ..... ।
- vii) हम सब गाँव में रहते हैं । 3.- ..... ।
- viii) बालक का नाम रवि है । 3.- ..... ।

#### 5.



मञ्जूषा

कृषकः, सूर्यास्तपे, मेघानां, योगदानम्, वृषभौ, अन्नोत्पादने, चालयति,  
हलम्, कर्षतः, रेलयानम्,

- i) ..... ।
- ii) ..... ।
- iii) ..... ।
- iv) ..... ।
- v) ..... ।

6.

अस्माकं भारतवर्षः बहुकालपर्यन्तं पराधीनतायाः शृङ्खलासु बद्धः आसीत् । भारतवर्षं स्वाधीनं कुर्वाणम् अनेके वीराः स्वात्मानं हुतवन्तः । भारतस्य स्वाधीनतायाः आन्दोलने सर्वे आबालवृद्धाः सक्रियाः आसन् । अस्मिन् अनेकानां नामानि वयं जानीमः अनेकानाञ्च नामानि वयं न जानीमः । मातृभूम्याः स्वाधीनतायाः कृते तेषां समेषां वीराणां बलिदानं वयं सर्वदा स्मरिष्यामः ।

(अ) एकपदेन लिखत- (केवलं प्रश्नद्वयम्)

- i. अस्माकं भारतवर्षः बहुकालपर्यन्तं कस्याः शृङ्खलासु बद्धः आसीत् ।?
- ii. भारतवर्षं स्वाधीनं कुर्वाणम् के स्वात्मानं हुतवन्तः?
- iii. केषां नामानि वयं जानीमः?

(आ) पूर्णवाक्येन लिखत- (केवलं प्रश्नद्वयम्)

- i. भारतस्य स्वाधीनतायाः आन्दोलने के सक्रियाः आसन्?
- ii. मातृभूम्याः स्वाधीनतायाः कृते केषां बलिदानं वयं सर्वदा स्मरिष्यामः?
- iii. अस्माकं भारतवर्षः बहुकालपर्यन्तं कासु बद्धः आसीत्?

(इ) अस्य अनुच्छेदस्य कृते उचितं शीर्षकं संस्कृतेन लिखत-

(ई) यथानिर्देशम् उत्तरत- (केवलं प्रश्नत्रयम्)

- i. 'विद्मः' पदस्य किं समानार्थकं पदं गद्यांशे प्रयुक्तम्?
- ii. 'हुतवन्तः' क्रियायाः कर्तृपदं गद्यांशात् चित्वा लिखत ।
- iii. 'निष्क्रियाः' इत्यस्य विलोमपदं गद्यांशात् चित्वा लिखत ।
- iv. 'समेषां वीराणाम्' इत्यनयोः पदयोः विशेषणपदं किम्?

## **ODIA**

୧- ଓଡ଼ିଶା ଏବଂ ପଞ୍ଚଜୀବ ଦୁଇଟି ରାଜ୍ୟ ର ନୃତ୍ୟ, ମନ୍ଦିର, ପଟାଞ୍ଚାଳ, ପରପରବାଣୀ, ଖାଦ୍ୟପକ୍ଷେ ଆଦିର ଏକ ତୁଳନାତ୍ମକ ଚିତ୍ରଣ ଦର୍ଶାଇ ଏକ ପ୍ରକଳ୍ପ କାର୍ଯ୍ୟ ବନାଅ ।

୨- ରଚନା ଲିଖି ।

କ) ମଟାବାଇଲ ର ବହୁଳ ବ୍ୟବହାର ଓ ଛାତ୍ର ସମାଜ ଉପରେ

ଏହା ର ପ୍ରଭାବ

ଖ) ସମସ୍ତର ସଦୁପଯୋଗ

୪- ନିମ୍ନଲିଖିତ ଅନୁରୂପେ ଚିତ୍ର ପଢ଼ି ପୁରାଣ ଗୁଡ଼ିକର ଉତ୍ତର ଲେଖ ।

ସବୁ ଦଶେର ସାହିତ୍ୟ ପଦ୍ୟ ରୁ ଆରମ୍ଭ । ଗୀତ ଗାଇବାକୁ ସମସ୍ତେ ଭଲ ପାଆନ୍ତି । ଗୀତ କୁ ମନରେଖିବା ସହଜ । ତାର ଛନ୍ଦ ଓ ମଧୁରତା ପ୍ରାଣକୁ ପୁଲକିତ କରେ । ତଣ୍ଡେ ପୁଅିବୀର ସବୁ ସାହିତ୍ୟ ପଦ୍ୟ ରୁ ହିଁ ଆରମ୍ଭ । ବଦେ, ଆମ ଦଶେର ପ୍ରଥମ ସାହିତ୍ୟ ଓ ଉତ୍ତାନର ଭଣ୍ଡାର । ବଦେ କୁ ଶୁଣିଶୁଣି ମନେ ରଖାଯାଇଥିଲା ବଚୋଲି ନାମ ତାର 'ଶରୁତି' । ବଦେ ରେ ବରଣ୍ଣିତ ପଦ ଓ ବାକ୍ୟ କୁ 'ମନ୍ତ୍ର' କୁହାଯାଏ । ବଦେ ରେ ଅଗନି, ବରୁଣ, ଉଷା, ଇନ୍ଦ୍ର ଓ ବିଷ୍ଣୁ ପରଭୃତିକ ସତ୍ତ୍ୱ ରହିଛି । ଏହାକୁ ସତ୍ତ୍ୱୋତ୍ତର କୁହାଯାଏ । ଏହା ଧର୍ମୀୟ ଭାବନା ଓ ପରକୃତିକୁ ନଲେ ରଚିତ । ବଦେକୁ ରକ, ଯଜୁଷ, ସାମ୍ ଓ ଅଧର୍ବ ଭଦେରେ ଚାରି ଭାଗରେ ବିଭକ୍ତ କରାଯାଇଛି । ସାମ୍ ବଦେ ସଂଗୀତ ପ୍ରଧାନ ତଣ୍ଡେ ଏହାକୁ ଗାନ କରାଯାଏ । ବଦେ ର ଅବବଚୋଧ ପାଇଁ କ୍ରମାନ୍ତଃ ର ସଂହିତା, ବ୍ରାହ୍ମଣ, ଆରଣ୍ୟକ ଓ ଉପନିଷଦ ଆକାରରେ ତାର ବ୍ୟାଖ୍ୟା କରାଯାଇଛି । ଉପନିଷଦର ଅନ୍ୟନାମ ବଦୋନ୍ତ ।

୧- ବଦୋନ୍ତ କହିଲେ କ'ଣ ରୁଖ ?

୨- ବଦେ ର ଅନ୍ୟନାମ କ'ଣ ?

୩- ବଦେ ମନ୍ତ୍ର କୁ ସତ୍ତ୍ୱୋତ୍ତର କହିବାର ତାତ୍ପର୍ଯ୍ୟ କ'ଣ ?

୪- ଗୀତ ଆମ ମନକୁ ପୁଲକିତ କରେ କାହିଁକି ?

୫- ସବୁ ଦଶେରେ ସାହିତ୍ୟ କାହିଁକି ପଦ୍ୟ ରୁ ଆରମ୍ଭ ହୋଇଛି ?

# MATHEMATICS

1. Can we write 0 in the form of  $p/q$ ?

- a. Yes
- b. No
- c. Cannot be explained
- d. None of the above

2.) The three rational numbers between 3 and 4 are:

- a.  $5/2, 6/2, 7/2$
- b.  $13/4, 14/4, 15/4$
- c.  $12/7, 13/7, 14/7$
- d.  $11/4, 12/4, 13/4$

3.) In between any two numbers, there are:

- a. Only one rational number
- b. Two rational numbers
- c. Infinite rational numbers
- d. No rational number

4.) Every rational number is:

- a. Whole number
- b. Natural number
- c. Integer
- d. Real number

5.)  $\sqrt{9}$  is \_\_\_\_\_ number.

- a. A rational
- b. An irrational
- c. Neither rational nor irrational
- d. None of the above

6.) Which of the following is an irrational number?

- a.  $\sqrt{16}$
- b.  $\sqrt{(12/3)}$
- c.  $\sqrt{12}$
- d.  $\sqrt{100}$

7.)  $3\sqrt{6} + 4\sqrt{6}$  is equal to:

- a.  $6\sqrt{6}$
- b.  $7\sqrt{6}$
- c.  $4\sqrt{12}$
- d.  $7\sqrt{12}$

8.)  $\sqrt{6} \times \sqrt{27}$  is equal to:

- a.  $9\sqrt{2}$
- b.  $3\sqrt{3}$
- c.  $2\sqrt{2}$
- d.  $9\sqrt{3}$

9.) Which of the following is equal to  $x^3$ ?

- a.  $x^6 - x^3$
- b.  $x^6 \cdot x^3$
- c.  $x^6 / x^3$
- d.  $(x^6)^3$

10.) Which of the following is an irrational number?

- a.  $\sqrt{23}$
- b.  $\sqrt{225}$
- c. 0.3796
- d. 7.478478

11.) Which of the following is an irrational number?

- a. 0.14
- ◆ 0.1416<sup>-</sup>
- ◆ 0.1416—
- d. 0.4014001400014...

12.)  $2\sqrt{3} + \sqrt{3} =$

- a. 6
- b.  $2\sqrt{6}$
- c.  $3\sqrt{3}$
- d.  $4\sqrt{6}$

14.) The number obtained on rationalising the denominator of  $1/(\sqrt{7} - 2)$  is

- a.  $(\sqrt{7}+2)/3$
- b.  $(\sqrt{7}-2)/3$
- c.  $(\sqrt{7}+2)/5$
- d.  $(\sqrt{7}+2)/45$

15.) Which of the following is rational?

- a.  $4/0$
- b.  $0/4$
- c.  $\sqrt{3}$
- d.  $\pi$



**16.) The irrational number between 2 and 2.5 is**

- a.  $\sqrt{11}$
- b.  $\sqrt{5}$
- c.  $\sqrt{22.5}$
- d.  $\sqrt{12.5}$

**17.) The value of  $\sqrt{10}$  times  $\sqrt{15}$  is equal to**

- a.  $5\sqrt{6}$
- b.  $\sqrt{25}$
- c.  $10\sqrt{5}$
- d.  $\sqrt{5}$

**18.) The decimal representation of the rational number is**

- a. Always terminating
- b. Either terminating or repeating
- c. Either terminating or non-repeating
- d. Neither terminating nor repeating

**19.) Which of the following is a rational number?**

- a. 0
- b.  $2\sqrt{3}$
- c.  $2+\sqrt{3}$
- d.  $\pi$

**20.) Which of the following is an irrational number?**

- a.  $\sqrt{(4/9)}$
- b.  $\sqrt{12}/\sqrt{3}$
- c.  $\sqrt{7}$
- d.  $\sqrt{81}$

**21. PROJECT: Early history of Mathematics**

**22. ACTIVITY; Represent irrational number on number line by spiral method**

**23. Workbook home work; ex- 1(all) Number system.**

# **SCIENCE**

## **MULTIPLE CHOICE QUESTIONS**

1. If cells of onion peel and RBC are separately kept in hypotonic solution, what will happen to each of them?

- (a) Both the cells will swell
- (b) RBC will burst easily while cells of onion peel will resist the bursting to some extent.
- (c) Both A and B
- (d) RBC and onion peel cells will behave similarly.

2. A person takes concentrated solution of salt, after sometime, he starts vomiting. What is the phenomenon responsible for such situation?

- (a) Osmosis
- (b) Exosmosis
- (c) Endosmosis
- (d) None of the above

3. Where will you find more number of ribosomes-in cancer cells or in fat cells?

- (a) Cancer cells
- (b) Fat cells

4. What are the colours absorbed by plants?

- (a) No colors are absorbed by plants
- (b) All the colors of the spectrum
- (c) Only yellow color
- (d) Only natural colors

5. A solution of 3% glucose and a solution of 8% glucose are kept in a trough separated by a semi permeable membrane. What will you observe after 1 hour?

- (a) Both sides of the semi permeable membrane will become isotonic because of exosmosis
- (b) Single side of the semi permeable membrane will become hypertonic because of osmosis
- (c) Both sides of the semi permeable membrane will become isotonic because of osmosis
- (d) No change will occur

6. Why does the skin of your finger shrink when you wash clothes for a long time?

- (a) Soap is hypotonic, so water is moved out of finger by osmosis
- (b) Soap is hypertonic, so water is moved out of finger by osmosis
- (c) Soap is isotonic, so water is moved into finger by osmosis
- (d) None of the above

7. Mitosis is referred to as reductional division because the number of chromosomes get halved in the daughter cell than that in the parent cell. State true or false.

- (a) True
- (b) False

8. Which of the following phenomena would increase on raising the temperature?

- (a) Diffusion, evaporation, compression of gases
- (b) Evaporation, compression of gases, solubility
- (c) Evaporation, diffusion, expansion of gases
- (d) Evaporation, solubility, diffusion, compression of gases

9. On converting 308 K, 329 K and 391 K to Celsius scale, the correct sequence of temperatures will be:

- (a) 33°C, 56°C and 118°C
- (b) 35°C, 56°C and 119°C

- (c) 35°C, 56°C and 118°C  
(d) 56°, 119°C and 35°

10. Which of the following statement is not true regarding the characteristic of matter?

- (a) Particles of a matter are randomly moving in all directions.  
(b) Kinetic energy of the particles increases with a rise in temperature  
(c) Kinetic energy of the particles of all matters remains the same at a particular temperature.  
(d) Particles of matter diffuse into each other on their own.

11. In which of the following conditions, the distance between the molecules of hydrogen gas would increase?

- (i) Increasing pressure on hydrogen contained in a closed container  
(ii) Some hydrogen gas leaking out of the container  
(iii) Increasing the volume of the container of hydrogen gas  
(iv) Adding more hydrogen gas to the container without increasing the volume of the container

- (a) (i) and (iii)  
(b) (i) and (iv)  
(c) (ii) and (iii)  
(d) (ii) and (iv)

12. Which one of the following statements is not true?

- (a) The molecules in a solid vibrate about a fixed position  
(b) The molecules in a liquid are arranged in a regular pattern  
(c) The molecules in a gas exert negligibly small forces on each other, except during collisions  
(d) The molecules of a gas occupy all the space available.

13. A few substances are arranged in the increasing order of 'forces of attraction' between their particles. Which one of the following represents a correct arrangement?

- (a) Water, air, wind  
(b) Air, sugar, oil  
(c) Oxygen, water, sugar  
(d) Salt, juice, air.

14. The boiling points of diethyl ether, acetone and n-butyl alcohol are 35°C, 56°C and 118°C respectively. Which one of the following correctly represents their boiling points in Kelvin scale?

- (a) 306 K, 329 K and 391 K  
(b) 308 K, 329 K and 392 K  
(c) 308 K, 329 K and 391 K  
(d) 329 K, 392 K and 308 K.

15. Which condition out of the following will increase the evaporation of water?

- (a) Increase in temperature of water  
(b) Decrease in temperature of water  
(c) Less exposed surface area of water  
(d) Adding common salt to water.

16. The boiling point of water at sea level is

- (a) 0°C  
(b) 273 K  
(c) 373 K  
(d) 273°C

17. Which of the following conditions is most favourable for converting a gas into a liquid?
- (a) High pressure, low temperature
  - (b) Low pressure, low temperature
  - (c) Low pressure, high temperature
  - (d) High pressure, high temperature
18. Choose the correct statement from the following:
- (a) Conversion of solid into vapour without passing through the liquid state is called vapourisation.
  - (b) Conversion of vapour into solid without passing through the liquid state is called sublimation.
  - (c) Conversion of vapour into solid without passing through the liquid state is called freezing.
  - (d) Conversion of solid into liquid is called sublimation.
19. Dry ice is
- (a) water in solid state
  - (b) water in gaseous state
  - (c) CO<sub>2</sub> in liquid state
  - (d) CO<sub>2</sub> in solid state
20. If a body is moving at constant speed in a circular path, its
- (a) velocity is constant and acceleration is zero
  - (b) velocity and acceleration both are changing direction only
  - (c) velocity and acceleration both are increasing
  - (d) velocity is constant, acceleration is changing direction
21. Which of the following can sometimes be 'zero' for a moving body?
- (a) Average Velocity
  - (b) Distance travelled
  - (c) Average Speed
  - (d) Displacement
22. What would be the displacement of a particle moving in a circular path of radius  $r$  after a displacement of half a circle?
- (a)  $2\pi r$
  - (b)  $\pi r$
  - (c)  $2r$
  - (d) Zero
23. What does the slope of the distance-time graph give?
- (a) Speed
  - (b) Velocity
  - (c) Acceleration
  - (d) Displacement
24. Which of the following is true of a free-falling body?
- (a) It moves with non-uniform motion
  - (b) It has zero velocity
  - (c) It has constant non-zero acceleration
  - (d) It has non-uniform acceleration
25. The physical quantity that has both magnitude and direction is known as
- (a) vectors
  - (b) scalars
  - (c) Both (a) and (b)
  - (d) Neither (a) or (b)

## SHORT ANSWER BASED QUESTIONS

1. The green light of the sunlight is blocked. How will the photosynthesis be affected?
2. What is the importance of meiosis in bringing about variation?
3. A cell is having two boundaries, the outer being cell wall and the inner being plasma membrane. The inherent property of this pair involving from outside to inside is \_\_\_\_\_.
4. The process of osmosis is the movement across the cell membrane of \_\_\_\_\_.
5. Lipid molecules in the cell are synthesized by \_\_\_\_\_.
6. A poorly developed zone in the center of a cell that has DNA molecule is called as \_\_\_\_\_.
7. The plant cells become turgid due to \_\_\_\_\_.
8. In a living cell the fluid present inside the nucleus is called \_\_\_\_\_.
9. Suggest a method to liquify atmospheric gases.
10. Give reasons for the following observations: The smell of hot sizzling food reaches you several meters away but to get the smell from cold food, you have to go close?
11. Can the average speed of a moving object be zero? Why?
12. Give an example of a motion in which acceleration of an object is against the direction of motion.
13. A cyclist rides his cycle with a speed of 30 m/s for the first half and the next half-length he covers with a speed of 45 m/s. Find the average speed of the cyclist.
14. A body moving in a circle of radius 'r', covers  $\frac{3}{4}$  th of the circle. Find the ratio of the distance to displacement.
15. List the important of velocity-time graph?
16. A train starting from rest attains a velocity of 20m/s in 2 minutes. Assuming that the acceleration is uniform, find (I) the acceleration (II) distance travelled by the train, while it attained this velocity.
17. How long will it take for a body accelerating by  $2 \text{ m/s}^2$  to gain a velocity of 10 m/s, starting from rest?
18. Write and derive the equations of motion involving uniform acceleration.
19. Define a vector quantity giving examples.
20. A car starts from rest and accelerates with  $2 \text{ m/s}^2$  for 10 seconds, After maintaining the velocity for 10 seconds, it comes to rest decelerating  $1 \text{ m/s}^2$  i) Draw the shape of V-t graph. II) Find the maximum velocity attained and the total distance travelled during the journey.
21. The brakes applied to a car produce a negative acceleration of  $10 \text{ m/s}^2$ . If the car takes 5 s to stop after applying brakes, calculate the distance covered by the car before coming to rest.
22. Draw a velocity-time graphs for the following (a) A body moving with a uniform acceleration. (b) Uniform retardation (c) Zero acceleration.
23. Name a physical quantity that (i) varies (ii) remains same in a uniform circular motion.

## CASE STUDY BASED QUESTIONS

1.

Mummy kept grams in a vessel and poured water into it and left it for the whole night. Next day, she found that water had been soaked by the grams.



Answer the following questions:

- What is this process called?
- Through which water enters into the grams?
- What happens if swollen grams are kept in sunlight?
- What happens if resin is kept in water?

2. Distance is the length of the actual path covered by an object, irrespective of its direction of motion. Displacement is the shortest distance between the initial and final positions of an object in a given direction. Distance is a scalar quantity. Displacement is a vector quantity. Distance covered can never be negative. It is always positive or zero. Displacement may be positive, negative or zero.

(i) \_\_\_\_\_ is the actual path covered by an object.

- (a) Speed                      (b) Motion                      (c) Velocity                      (d) Distance

(ii) \_\_\_\_\_ is the shortest distance between the initial and final positions of an object.

- (a) Displacement              (b) Acceleration              (c) Distance                      (d) Motion

(iii) Which of the following is a scalar quantity?

- (a) Displacement              (b) Distance                      (c) Velocity                      (d) Acceleration

(iv) Distance covered \_\_\_\_\_.

- (a) can never be negative                      (b) can never be positive  
(c) can never be zero                              (d) can be positive or negative

(v) Which of the following is vector quantity?

- (a) Displacement              (b) Velocity                      (c) Acceleration                      (d) All of these

## **SOCIAL SCIENCE**

1. Describe the divisions in French society before the French Revolution
2. Explain the immediate cause of French Revolution
3. How did peasants protest against feudal lords ?
4. What was Subsistence Crisis ?





9. How did France become a constitutional monarchy ?

10. Name one of the most important of the politically active women in the revolutionary France .

Lesson --1

1. India is said to enjoy a strategic position with reference to international trade routes. Which features provide India a strategic advantages?

OR

Explain the importance of India's location on the globe.

2. Explain the latitudinal and longitudinal extension of India.

3. Distinguish between local time and standard time .
  
  
  
  
  
  
  
  
  
  
4. Why do we select  $82^{\circ} 30'E$  longitude as the standard meridian of India?
  
  
  
  
  
  
  
  
  
  
5. What is the need of standard meridian in India?
  
  
  
  
  
  
  
  
  
  
6. "Opening of Suez Canal has benefited India immensely." Justify this statement.
  
  
  
  
  
  
  
  
  
  
7. What is a subcontinent? Why India is called a subcontinent?

8. The Sun rises two hours earlier in Arunachal Pradesh as compared to Gujrat in the west., but watches show the same time. How does this happen?

9. Why is the difference between day and night durations hardly felt at Kanyakumari, but not so in Kashmir?

#### Lesson -2

1. Distinguish between Himadri and Himachal.

2. Why are Himalayan Mountains called Young Fold Mountains?

3. Name the three longitudinal divisions of Himalayas. State characteristic features of each. Hint( Himadri, Himachal and Siwalik)

4. Explain four divisions of the Himalayas from West to East along with Purvanchal hills.

#### Map

On the political map of India , locate the followings

1. Standard Meridian
2. Southern most point of main land of India
3. Island group lies in Bay of Bengal
4. Mount K2, Kanchenjunga, Malawa Plateau, Thar Desert
5. Himalayan range, Karakoram range, Zaskar Range, Vindhya Range

# Artificial Intelligence

Summer Fun Work

Class IX

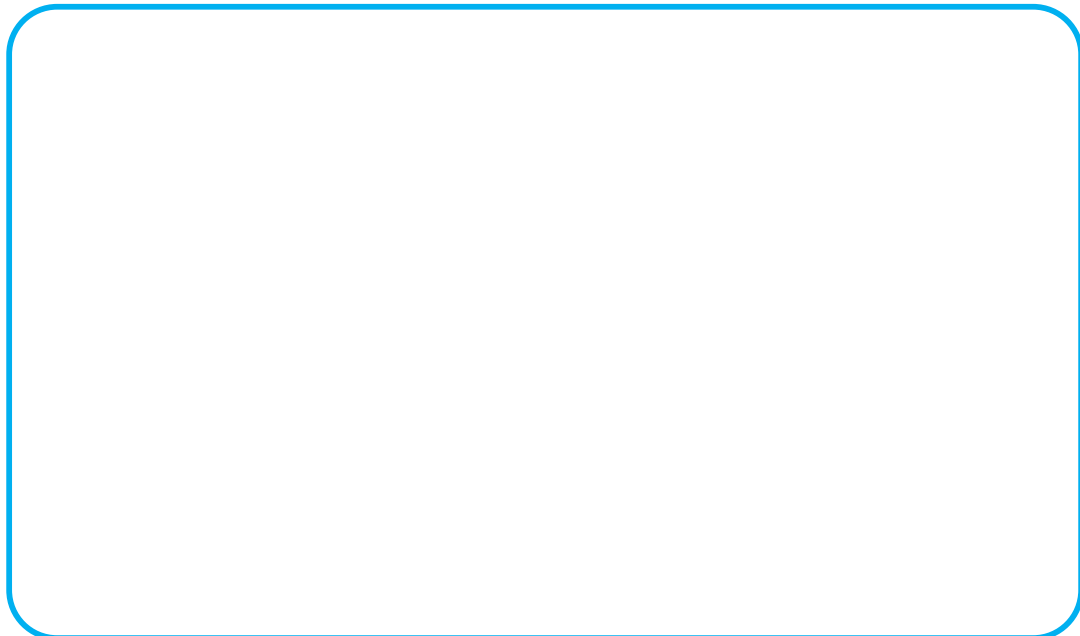
## Python Programming

I. Write scripts using the Python programming language for the given questions.

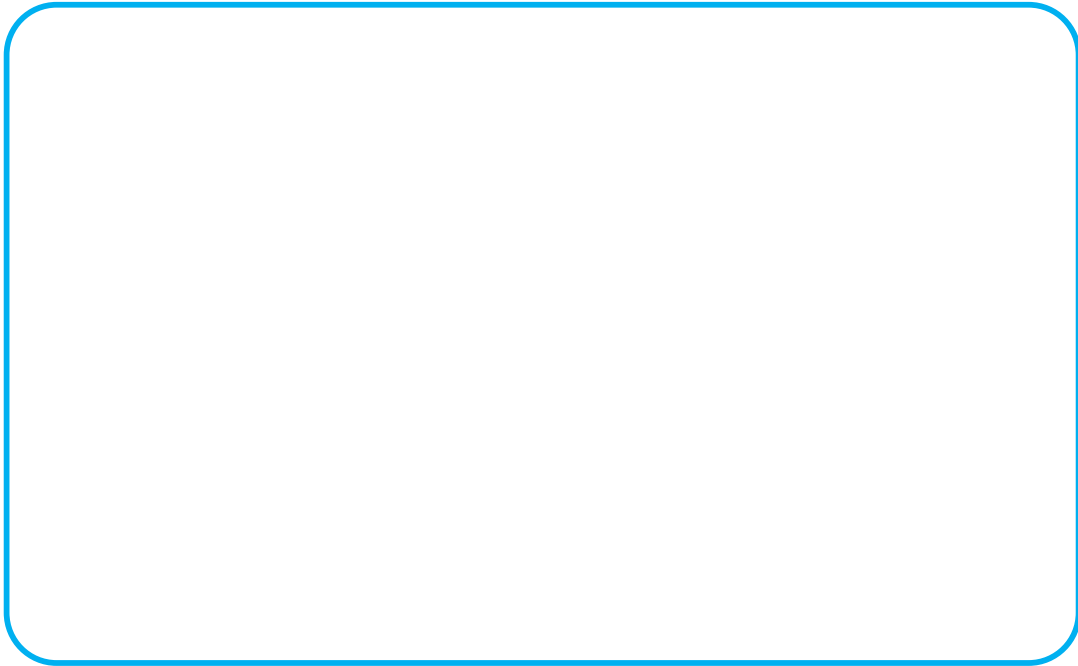
1. The Travancore Bus Company operates buses between Chennai and Bengaluru. The fare is fixed at ₹1.50 per kilometer. Using a python script, calculate the total fare for a passenger traveling from Chennai to Bengaluru.



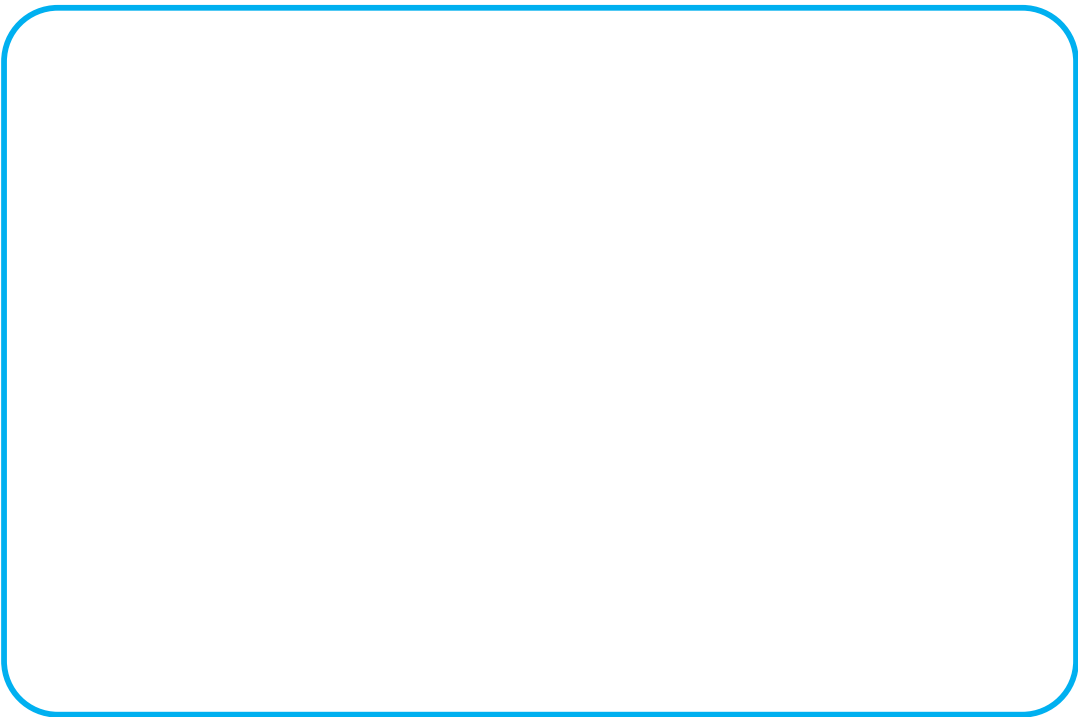
2. Ravikant needs to calculate the volume and total surface area of cylinders. Write a script in python that takes the radius of a cylinder and displays the volume and total surface area of the cylinder.



3. Nikita wants to convert the readings on a thermometer from fahrenheit to celsius. Write a python script that takes the temperature in fahrenheit as input and converts it to celsius.

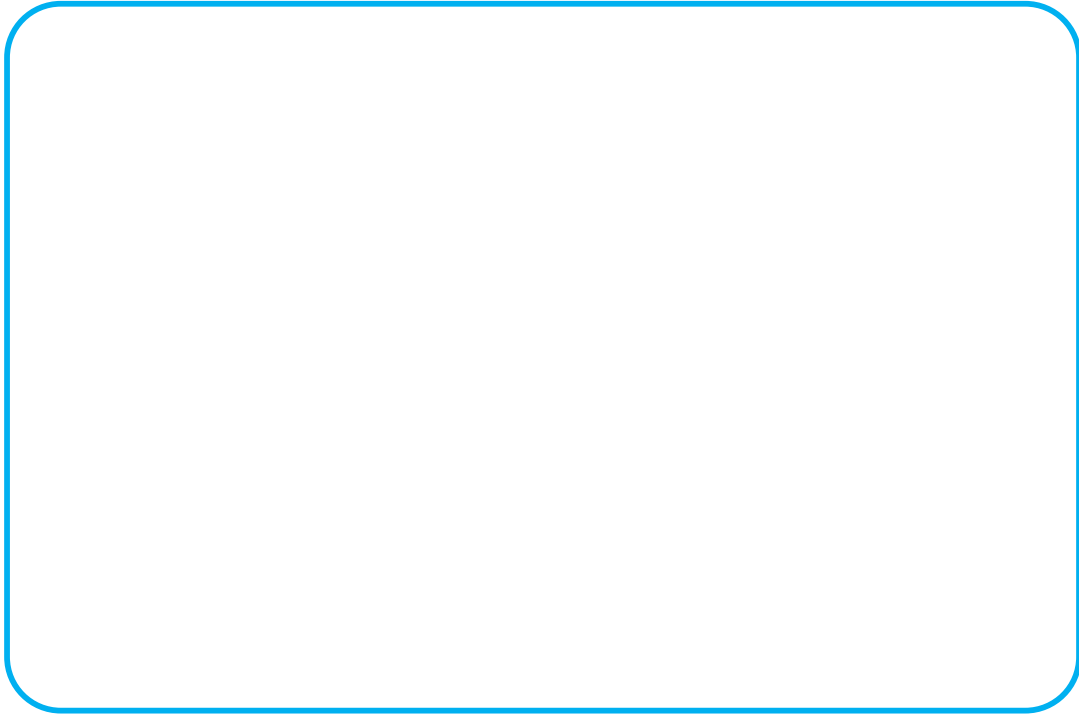


4. Rishi invests ₹1,56,500 in an account for a period of 5 years. Calculate the simple interest at the rate of 10% for 5 years using a python program and display the simple interest and total amount.

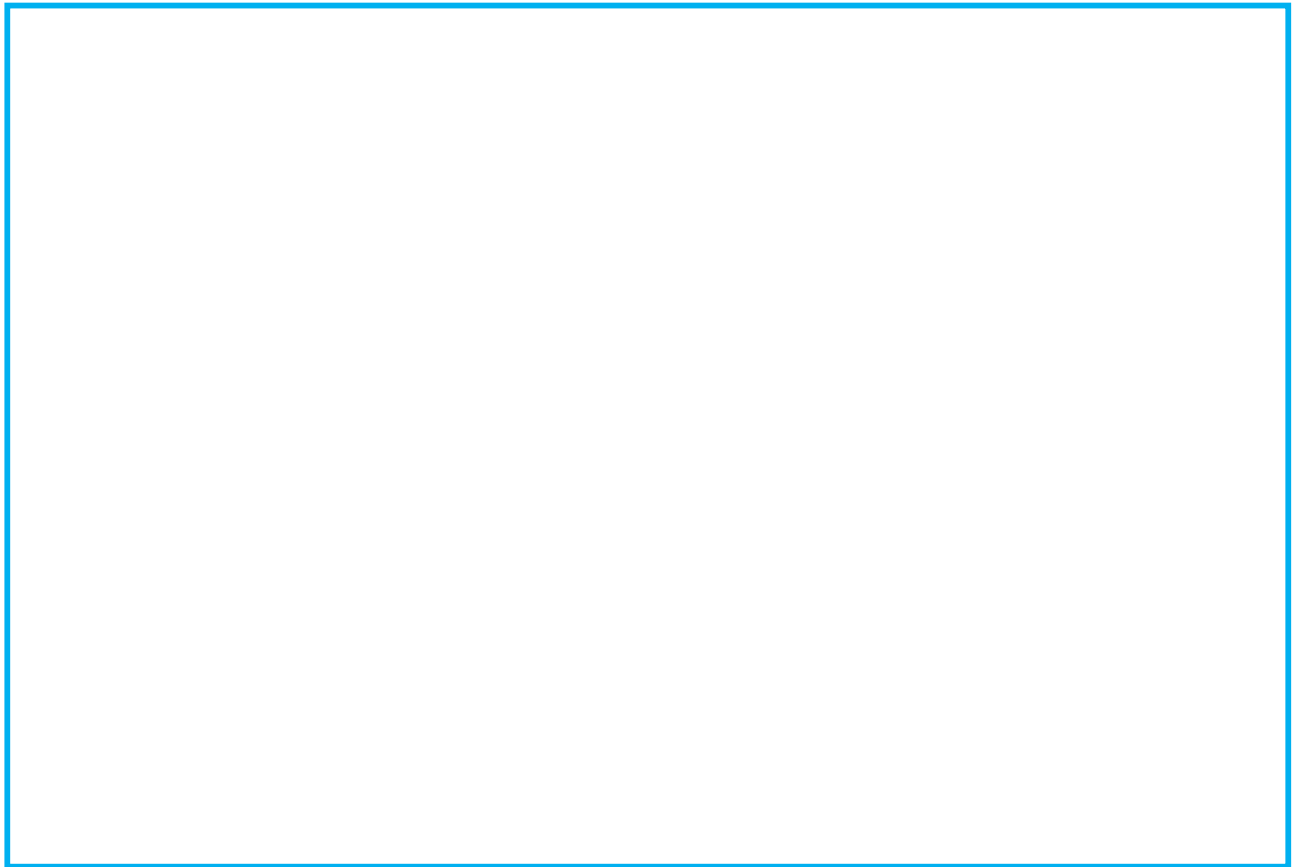


5. A bank account has ₹ 51,700 and it earns interest at the rate of 5% per annum for a term of 10 years compounded annually. Write a python program to calculate the Interest and the final amount.

## Artificial Intelligence



- II. Make a poster of different types of Robots.



- III. Visit your nearest supermarket, and observe how computers are used. Write four applications of AI in the supermarket.

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**IV. Imagine the world in 2030 and write a letter to your future self. Be sure to mention things that you think your future self would probably be doing and experiencing in daily life.**

Place \_\_\_\_\_

Date \_\_\_\_\_

Dear \_\_\_\_\_,



It feels a little strange to be writing a letter to my future self, but it's also rather exciting!

At present I am very interested in \_\_\_\_\_ and am sure this is a hobby that has proved beneficial and I am now a skilled \_\_\_\_\_.

So tell me have things changed a lot? Do we still have a lot of \_\_\_\_\_?  
\_\_\_\_\_?

Has Artificial Intelligence proved to be \_\_\_\_\_?  
\_\_\_\_\_?

You must be so used to \_\_\_\_\_  
\_\_\_\_\_ while we struggle to  
\_\_\_\_\_. Is our Pet  
\_\_\_\_\_ doing well or have you replaced it with \_\_\_\_\_?



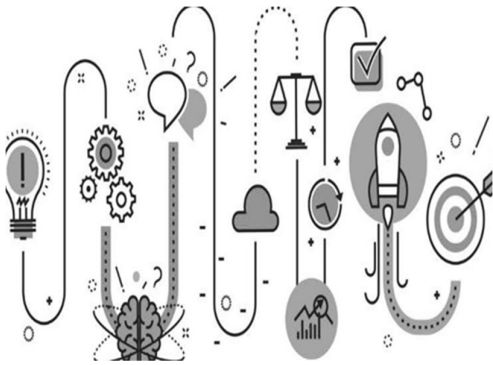
Ha! Ha! It's so much easier, right?!

How is your preparation for the new job? Must be really nice to be \_\_\_\_\_

\_\_\_\_\_.

Have you changed the \_\_\_\_\_

\_\_\_\_\_?



Am sure things have turned out well for you in 2030. Great

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_!

It's been nice writing to you \_\_\_\_\_

\_\_\_\_\_.

Hope this letter brings back old memories...

Sincerely,

.....



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