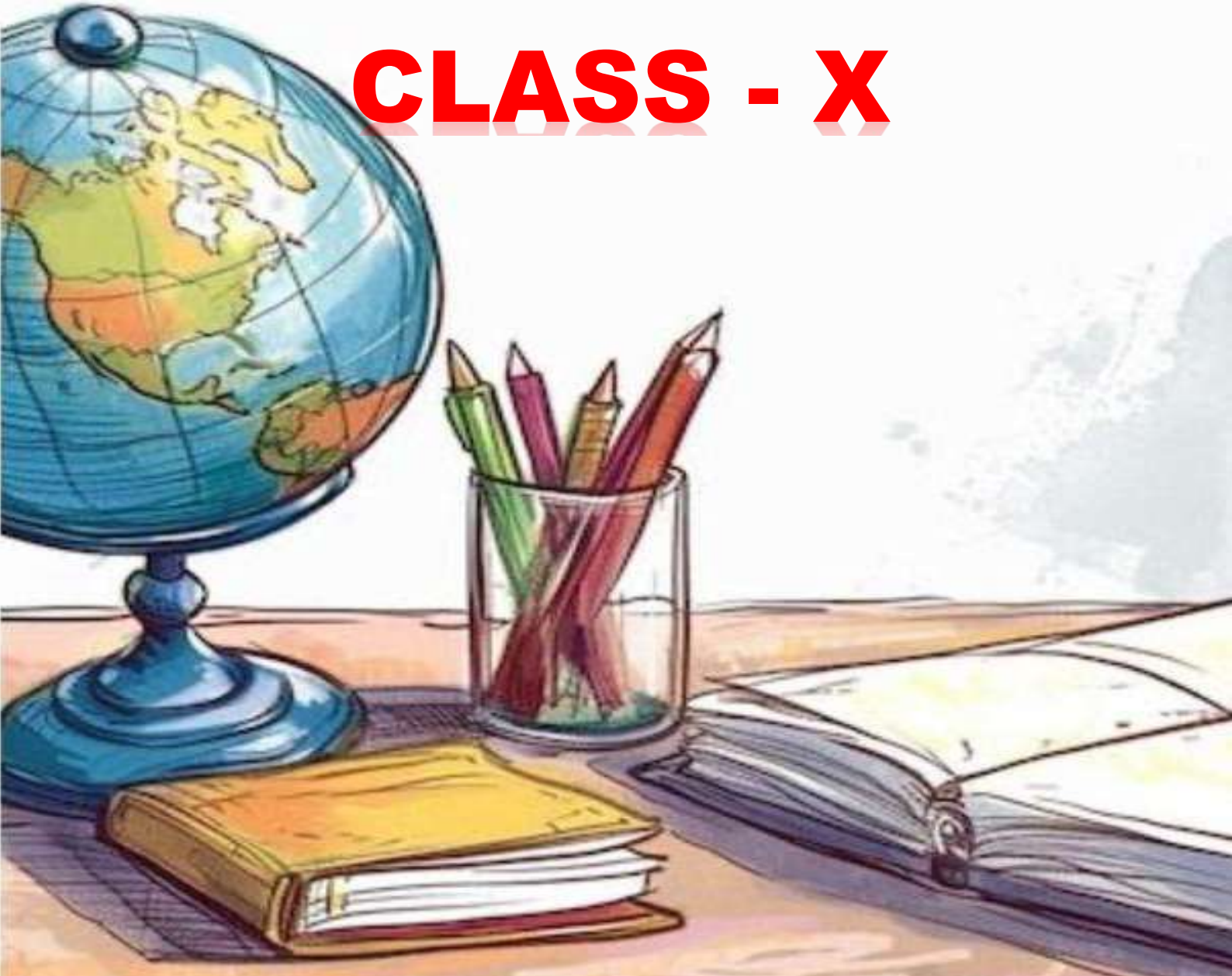
O.P. JINDAL SCHOOL
RAIGARH (CG)
तमसो मा ज्योतिर्गमय

SUMMER VACATION HOMEWORK

CLASS - X



ENGLISH

I. Edit the following passage by replacing the error with the correction:

Colonialism frequent engineered systems of involuntary		
servitude, reduce individuals to mere instruments of imperial ambition.		
Through coerced labour and systemic subjugate, empires stripped		
away indigenous agency, establishing a rigid hierarchy when the oppressed endured relentless toil to sustain foreign prosperity.		

II. One word is missing in each line, insert the missing word:

Contemporary cultural trends reflect sophisticated			
interplay ancestral heritage and the			
digital revolution. Society presently navigates a landscape traditional values encounter			
globalised innovation, fostering unique synthesis redefining			
identity through curated aestheticism technological immersion.			

III. Rearrange the words to frame meaningful sentences:

1. that individuals /liberty to forge their own purpose/ existentialism posits/ within an inherently / possess the absolute/ indifferent universe
2. orientalists frequently / of the East, viewing / romanticised perception/ diverse cultures/ constructed a / through a distinctively European lens
3. he visits/ solace within the hallowed / his hometown / Gurmit finds profound / sanctuary of the Gurudwara when

IV. Turn into indirect speech:

1. The headmaster said to the assembly, “Honesty remains the most commendable policy in every walk of life.”
2. The traveller inquired of the local resident, “Does this winding path lead directly to the ancient cathedral?”
3. She remarked to her companion, “I shall attend the orchestral performance if the weather proves favourable tomorrow.”

4. The detective asked the witness, “Precisely at what hour did you observe the stranger entering the manor?”
5. “Are you prepared to shoulder the responsibilities of this new station?” the mentor asked his protégé.

V. Fill in the blanks:

1. The committee decided to _____ the proposal until further research could be conducted. (defer / defy/dupeted)
2. Although the results were unexpected, the team remained _____ in their commitment to the project. (steadfast / stagnant)
3. By the time the sun sets this evening, the hikers _____ (reach) the summit of the mountain.
4. The scholar spent several years delving _____ the nuances of ancient linguistics to finish his thesis.
5. Despite being familiar _____ the local customs, the diplomat struggled to communicate effectively _____ the village elders.

WRITING SKILLS

6. The National Bravery Awards are presented to honour children who display selfless courage in difficult situations. These awards inspire other children and encourage them to follow such noble examples. In a similar spirit, the government should introduce *National Environment Crusader Awards* to recognise children who actively work towards spreading awareness about environmental conservation.

Write a letter to the Editor of a national daily, in about **120 words**, expressing your views on this idea.

7. ‘Atithi Devo Bhava’ has been a guiding principle of Indian culture since ancient times. However, you feel that merely promoting tourism is not enough to attract visitors. It is equally important to sensitise people working in the tourism industry to behave responsibly, treat tourists with respect, ensure their safety, and assist them during their stay.

As **R. Ramesh**, write a letter to the Tourism Department, in not more than **120 words**, expressing your concerns.

8. “Laugh out loud and feel happy and fit inside out,” for laughter is considered the best medicine. In today’s world, where stress is increasing among people of all age groups, Laughter Yoga has emerged as an effective way to maintain physical and mental well-being.

Using the cues given below, along with your own ideas and those from the unit *Health and Medicine*, write an article for your school magazine in about **150 words** highlighting the benefits of Laughter Yoga.

- Improves cardiovascular health
- Boosts the immune system (increases antibody production and activates immune cells)
- Reduces stress
- Requires no special equipment
- Cost-effective

HINDI

(सभी विद्यार्थी निम्नलिखित लेखन को कक्षाकार्य पुस्तिका में लिखकर आएंगे-)

अनौपचारिक पत्र

१.छोटे भाई को कुसंगति से बचने की सलाह देते हुए पत्र लिखिए।

२.भाई की सफलता पर गर्व व्यक्त करने हेतु पत्र लिखिए।

३.नए घर के उद्घाटन (Housewarming) पर कक्षा शिक्षक/शिक्षिका को आमंत्रण-पत्र लिखिए।

४.अपने शहर के किसी ऐतिहासिक स्थल का वर्णन करते हुए मित्र को पत्र लिखिए।

५.छोटी बहन को अपना करियर चुनने के लिए सलाह देने हेतु पत्र लिखिए।

निम्नलिखित सभी विषयों पर अनुच्छेद- लेखन न्यूनतम १२० शब्दों में कीजिये-

1. राष्ट्रीय एकता और अखंडता
2. पालीथिन से सावधान
3. आत्मविश्वास और लक्ष्य
4. बचपन की वो यादें
5. वरिष्ठ नागरिकों की समस्याएँ
6. धैर्य - सफलता की सीढ़ी
7. अभ्यास का महत्त्व
8. सोशल मीडिया का मकड़जाल
9. जल बचाओ-धरती को हराभरा बनाओ
10. ऑनलाइन खरीददारी की बहार

अर्थालंकार के पाँचों अलंकारों से प्रत्येक के 5-5 उदाहरण लिखिए.

रचना के आधार पर वाक्य-भेद में सभी तीनों वाक्यों के १०-१० उदाहरण लिखिए.

SANSKRIT

.1अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत-

अन्यस्य जनस्य हिताय यत् कार्यं चिन्तनं वा क्रियते तदेव परोपकारः भवति। मनुष्यस्य मध्ये प्रवृत्तिद्वयं दृश्यतेएका स्वार्थस्य अपरा च परोपकारस्य। केचन जनाः ता-दृशाः अपि सन्ति, ये स्वार्थं समीहन्ते न च परोपकारं कुर्वन्ति। ते जनाः अतीव अधन्याः समाजाय च अभिशापरूपाः एव। यस्य केवला स्वार्थबुद्धिः, सः राक्षसः इव सततम् आचरति। ततः वरतराः ते जनाः, ये यद्यपि सर्वात्मना आत्मं भरयः, परं ते परमुखापेक्षिणः न तिष्ठन्ति। यः खलु स्वार्थं सेवमानः परमार्थम् अपि चिन्तयति करोति च यशाशक्ति, सः एव पुरुषः प्रशस्यः।

अ. एकपदेन उत्तरत-

(i) अन्यस्य जनस्य हिताय चिन्तनं किम् भवति?

(ii) मनुष्यस्य मध्ये कति प्रवृत्तिः ?

(iii) ये केवलं स्वार्थं समीहन्ते परोपकारं च न कुर्वन्ति, ते जनाः के भवन्ति?

आ. पूर्णवाक्येन उत्तरत-

(i) यस्य केवला स्वार्थबुद्धिः भवति, सः कः इव आचरति?

(ii) कीदृशाः जनाः अधन्याः अभिशापरूपाः च सन्ति?

(iii) कः पुरुषः प्रशस्यः भवति ?

इ. अस्य गद्यांशस्य उपयुक्तं शीर्षकं लिखत।

ई. निर्देशानुसारं प्रदत्तविकल्पेभ्य उचितम् उत्तरं चित्वा लिखत। :

)i('पुरुषः प्रशस्यः' इत्यनयोः पदयोः कः विशेष्यः?

) ii('परमार्थबुद्धिः' इत्यस्य पदस्य कः विपर्ययः गद्यांशे आगतः?

) iii('निरन्तरम्' इति पदस्य कृते गद्यांशे किं पदं प्रयुक्तम् ?

2-अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत .

भारतस्य राजधानी दिल्ली प्राचीनं नाम इन्द्रप्रस्थम् आसीत्। : अस्ति। अस्यानाम्ना प्रसिद्धा-'नवादिल्ली इति स्थाने केन्द्रीयप्रशासनस्य कार्यालयासन्ति। तत्र बहुभूमि : कानि भवनानि विलसन्ति। भारतस्य राष्ट्रपतिः, उपराष्ट्रपतिः, प्रधानमंत्री, अन्ये केन्द्रियमन्त्रिणनिवसन्ति। दिल्ली सर्वस्य नगरे एव-च दिल्ली :सांसदा : आकर्षणकेन्द्रम् अस्ति। अत्र दूरदर्शनस्य अपि केन्द्रम् अस्ति। अधुना संसारे या प्रगति :दृश्यते तस्या :

अपि प्रमुखं :दिग्दर्शनं दिल्लीनगरे भवति। दिल्ली शिक्षायाकेन्द्रं वर्तते। अत्र दिल्लीविश्वविद्यालय:, जवाहरलालनेहरूविश्वविद्यालय:, लालबहादुरशास्त्रिविद्यापीठं च सन्ति। दिल्लीनगर्यां दर्शनीयस्थानेषु सर्वोच्चन्यायालय:, मेहरौलीस्तम्भ:, राष्ट्रपतिभवनं, संसद्भवनम्, अद्भुतालय:, जन्तुगृहं वायुयानआस्थानं-, अन्तर्राज्यीय :आस्थानम् रक्तदुर्गम् च सन्ति। दिल्ली राजधानीक्षेत्रस्य विधानसभाया-बस-केन्द्रम् अपि अस्ति। किं बहुना दिल्ली भारतस्य हृदयं वर्तते।

अ. एकपदेन उत्तरत-

)i(दिल्ल्या प्राचीनं नाम :किम् आसीत्?

)ii(दिल्ली कस्य आकर्षणकेन्द्रम् अस्ति?

(iii) कुत्र दूरदर्शनस्य केन्द्रम् अस्ति ?

आ. पूर्णवाक्येन उत्तरत -

)i(अत्र कानि दर्शनीय स्थानानि सन्ति?

)ii(के दिल्ली नगरे एव निवसन्ति?

(iii) भारतस्य हृदयं किं वर्तते?

इ. अस्य गद्यांशस्य उपयुक्तं शीर्षकं लिखत।

ई. निर्देशानुसारं प्रदत्तविकल्पेभ्य उचितम् उत्तरं चित्वा लिखत। :

)i('शोभन्ते' इत्यर्थे अत्र क: शब्द:प्रयुक्त :?

)ii('नवीनम्' इति पदस्य विलोमपदं लिखत।

)iii('भारतस्य हृदयं वर्तते'| अत्र वर्तते क्रियापदस्य कर्ता क:?

)iv('विख्याता' इत्यस्य पर्यायवाचिपदं किम्?

3. अधोलिखितम् अनुच्छेदं पठित्वा प्रदत्तप्रश्नानाम् उत्तराणि लिखत।

द्रुमाः वसुन्धरायाः अलङ्काराः सन्ति, ये आजीवनम् दूषितवायोः विषं पिबन्तिः, प्राणिभ्यः अमृततुल्यं शुद्धवायुम् च उत्सृजन्ति। एते उपकारिणः स्वयम् आतपे तिष्ठन्ति, ग्रीष्मतापेन तप्तेभ्यः श्रान्तेभ्यः च जनेभ्यः शीतलां छायां यच्छन्ति। भारतीयसंस्कृतौ वटवृक्षस्य अश्वत्थतरोः तुलसीपादपादीनां बहुमानः क्रियते। वटवृक्षस्य अधः उपविश्य गुरवः शिष्यान् उपदिशन्ति स्म। विविधैः फलैः प्रसूनैः च अलङ्कृताः महीरुहाणाम् विनताः शाखाः मानवेभ्यः विनम्रतायाः आचरणस्य सन्देशं यच्छन्ति। वृक्षाणाम् सङ्गे मनुष्याः अतीव शान्तिं विन्दन्ति। मनुष्याणाम् स्नेहस्पर्शेन च पादपाः सम्यक्रूपेण विकसन्ति। अतः अस्माभिः समयं प्राप्य वृक्षैः सह

प्रकृतिमातुः अङ्के अवश्यमेव स्थातव्यम्| असंख्यजीवजन्तूनाम्आश्रयस्थलानि अनेकेषाम् खगानां नीडानि एते पुष्पिताः फलिनः च वृक्षाः स्थाने स्थाने रोपणीयाः रक्षणीयाः वर्धनीयाः च।

I. एकपदेन उत्तरत

(क) वसुन्धरायाः अलङ्काराः के सन्ति?

(ख) दुमाः प्राणिभ्यः कीदृशं वायुम् उत्सृजन्ति?

(ग)वृक्षाणाम् सङ्गे मनुष्याः किं विन्दन्ति ?

2.पूर्णवाक्येन उत्तरत।

(क) महीरूहाणां विनताः शाखाः मानवेभ्यः कस्य सन्देश यच्छन्ति?

(ख)पादपाः कथं सम्यक्रूपेण विकसन्ति ?

(ग) गुरवः कुत्र शिष्यान् उपदिशन्ति स्म ?

3.यथानिर्देशमुत्तरत

(i) अनुच्छेदे 'विकसन्ति' इति क्रियापदस्य कर्तृपदम् किम् ?

(ii) 'एते उपकारिणः' अत्र 'एते' सर्वनामपदम् केभ्यः प्रयुक्तम्?

(iii) 'पुष्पैः' इति अर्थे किम् पदम् अत्र प्रयुक्तम्?

(iv) 'एते पुष्पिताः फलिनः च वृक्षाः स्थाने स्थाने रोपणीयाः रक्षणीयाः वर्धनीयाः च।' अत्र विशेष्यपदम् किम्?

IV. अस्य अनुच्छेदस्य कृते समुचितं शीर्षक लिखत।

4. भवान् गिरीशः। भवतां विद्यालये संस्कृतसप्ताहः समायोजितः। तत्र संस्कृतसम्भाषणप्रतियोगितायाम् भवता प्रथमः पुरस्कारः प्राप्तः। तत् सूचयता भवता स्वमित्रं पुनीतं प्रति लिखिते पत्रे रिक्तस्थानानि पूरयित्वा पुनः पत्रं लिख्यताम्। सहायतायै मञ्जूषा अपि दत्ता-

छात्रावासः

12, मालवीयनगरम्

(i (.....

दिनाङ्कः .....

प्रियमित्र)ii (.....

सस्नेहम्)iii(.....।

अत्र वयं सर्वे कुशलिनः। अस्माकं विद्यालये गतसप्ताहे संस्कृतसप्ताहः)iv (.....। तत्र एका सम्भाषणप्रतियोगिता)v (..... । अहं तस्यां)vi (..... प्रथमपुरस्कारं प्राप्तवान्। संस्कृतसम्भाषणेन)vii (..... आत्मविश्वासः जागृतः अभवत्। इदानीम् अहं संस्कृते एव)viii (.....। भवान् अपि तथा प्रयत्नं कुर्यात्।

पितृभ्याम् नमोनमः।

(ix (..... अभिन्नमित्रम्

(x (.....

मञ्जूषा-	अभिवादनम्, वदामि, पुनीत, दिल्लीतः, अभवत्, मयि, भवतः, समायोजितः, गिरीशः, प्रतियोगितायाम्,

5. भवान् रायगढ़नगरस्थ उमेशः । भवतः मित्रं राजीवः नागपुरनगरे वसति । तं प्रति परीक्षायाम् सफलतायै - - वर्धापनपत्रं पूरयित्वा लिखत (5)

मञ्जूषा - अपश्यम्, महती, उमेशः, आगतः, तुभ्यम्, छात्रवृत्तिम्, अधिकतरा, राजीव,

तत्रास्तु , रायगढ़नगरतः|

(i) .....

तिथिः .....

प्रिय मित्र (ii).....

अत्र कुशलम् (iii)..... । अद्यैव तव परिणामः (iv)..... । तव सफलतां ज्ञात्वा मम मनसि (v)..... प्रसन्नता जाता । मम एषा प्रसन्नता (vi)..... जाता यदा अहम् तव नाम योग्यतासू-चौ (vii)..... । त्वया सप्त रूपेण-शतानि अंकाः प्राप्ताः । त्वं निश्चित-(viii)..... प्राप्स्यसि । त्वया परिवारस्य विद्यालयस्य च नाम उज्ज्वलीकृतम् ।

अस्याम् उज्ज्वल सफलतायाम् अहम्(ix)..... हार्दिकं वर्धापनम् यच्छामि उज्ज्वलभविष्याय च - कामये । मातृपितृचरणेषु प्रणामः ।

तव अभिन्नहृदयं मित्रम्

(x).....

6. भवान् गौरवः अस्ति। भवतः मित्रम् मयकः नवकक्षायाम् प्रविष्ट। स्वमित्रम् नवकक्षायां संस्कृतम् पठितुम् प्रेरयितुम् लिखिते अस्मिन् पत्रे रिक्तस्थानानि पूरयित्वा उत्तरपुस्तिकासु लिखत।

प्रिय मयंक,

(1) .....|

अत्र (2).....तत्रास्तु। तव पत्रात् ज्ञातं यत् त्वम् नवमकक्षायां संस्कृतम् पठितुम् इच्छसि। एतत् ज्ञात्वा अहम् अति प्रसन्नः(3) .....यतः संस्कृतम् पठित्वा वयं स्वदेशस्य गौरवम् अनुभवितुम् (4).....|इयं देवभाषाविश्वस्य सर्वासु भाषासुप्राचीनतमा(5).....च अस्ति। विश्वस्य(6).....भाषासु भारतीयभाषासु च(7).....शब्दाः प्राप्यन्ते | किम् त्वम् जानासि यत् वेदाः रामायण महाभारतम्, उपनिषदः पञ्चतन्त्रहितोपदेशादयः(8).....संस्कृते एव लिखिताः सन्ति ।

अतः त्वम् सर्वैः(9).....सह संस्कृतमपि परिश्रमेण पठ। अवकाशेषु मम गृहम् आगच्छ। मातापितृभ्याम्मम प्रणामान् कथय।

तव(10) .....

गौरवः।

मञ्जूषा - अभवम् , नमोनमः, मित्रम् , शक्नुमः, विषयैः, संस्कृतस्य , अनेकासु ,ग्रन्थाः., वैज्ञानिकी,कुशलं|

7.अधोलिखितवाक्येषु रेखाङ्कितपदेषु सन्धिं सन्धिच्छेदं वा कुरुत -

1. अदीयमानं धनं निधनैकनिष्ठम् भवति ।
2. हरिरस्ति न्यायप्रियः दयालुः च।
3. मुनिरालयम् दृष्ट्वा राजा साश्चर्यम् अतिष्ठत् ।
4. सरस्वती देवैरपि वन्दिता भवति।
5. कीर्तिः+यस्य सः जीवति।
6. नृपः सद्गुण+उपेतः आसीत् ।
7. गुरुजनोपदेशाः सदा पालनीयाः।
8. सोऽपि अस्माभिः सह आगमिष्यति ।
9. वधूः+इव भासते इदं नगरम् ।
10. प्रत्येकं छात्राः ध्यानेन पाठं पठन्तु।
11. गणपतये नमः ।
12. त्वं कथं भावुकः आसीः?
13. का हानिस्ततोऽधिका।
14. योऽभ्युदीरयेत् परुषां वाचम् ।
15. किं जाड्यम्?पाठतोऽप्यनभ्यासः ।
16. अजन्ताः शब्दाः सरलाः भवन्ति ।
17. ज्ञानात्+आप्नोति यशः ।
18. पर्जन्यस्तद् राष्ट्र नाभिवर्षति ।

19. अश्वाः प्राणत्राणाय इतस्ततः अधावन् ।

20. पापतरस्ततः कः स्यात्?

8 **अधोलिखितवाक्येषु रेखाङ्कितपदस्य समासं विग्रहं वा विकल्पेभ्यः चिनुत -**

(i (मातापितरौ पूजनीयौ।

(क) मातौ च पितरौ च (ख) माता च पितरौ (ग) माता च पिता च

(ii) जगतः पितरौ वन्दे पार्वतीपरमेश्वरौ ।

(क) पार्वती च परमेश्वरौ च (ख)पार्वती च परमेश्वर: च (ग)पार्वतौ च परमेश्वरौ

(iii) यथेच्छं कार्यं कुरु|

(क) इच्छम् अनतिक्रम्य (ख) इच्छाम् अनतिक्रम्य (ग) इच्छया सहितम्

(iv) जनाः देशस्य भक्तान् पूजयन्ति

(अ) देशभक्ताः (ब) देशभक्तान् (स) देशभक्त

(v) यथास्थानम् अस्थापयत्

(अ) स्थानं यथा (ब) स्थानम् अतिक्रम्य (स) स्थानम् अनतिक्रम्य

(vi) येन मम लोकयात्रा निर्बाधा भवेत् ।

(A) लोके यात्रा (B) लोकं यात्रा (C) लोकस्य यात्रा

(vii) न पूर्वः अयं कोशः तव भारति ।

(A) अनपूर्वः (B) अपूर्वः (C) पूर्वन

(viii) बकः च काकः च कलहं कुरुतः ।

(A) बककाकयोः (B) बककाकौ (C) बककाके

(ix) विषादेन सहितम् यूथपतिः अवदत् ।

(A) विषादसहितम् (B) सहितविषादम् (C) सविषादम्

(x) कृष्णार्जुनौ परस्परं वदतः ।

(A) कृष्णः च अर्जुनः च (B) कृष्णस्य अर्जुनः (C) कृष्णौ च अर्जुनौ च

9.अधोलिखितवाक्येषु रेखाङ्कितपदानां प्रकृति-प्रत्ययौ संयोज्य वियुज्य वा उत्तरं विकल्पेभ्यः चिनुत -

(i) यः धर्मप्रद + टाप् वाचम् त्यक्त्वा परुषाम् अभ्युदीरयेत् ।

(क) धर्मप्रदाम् (ख) धर्मप्रदा (ग) धर्मप्रद:

(ii) वाक्पटु- धैर्यवान् मन्त्री सभायामप्यकातरः**।**

(क) धैर्यम् मतुप + (ख) धीर मतुप् + (ग) धैर्य मतुप् +

(iii) सर्वेषामेव मत्कृते महत्त्वं विद्यते ।

(क) महत् + त्व (ख) महत् + त्वम् (ग) महत्त्व + त्व

(iv) व्याघ्रं दूरात् दृष्ट्वा बुद्धिमती चिन्तितवती-

(क) बुद्धि मतुप् + (ख) बुद्धि क्तवतु + (ग) बुद्धिणिनि +

(v) .....(बल + मतुप्) जना: निर्बलेषु बलप्रयोगं न कुर्यु:।

बलवन्तः (ग) बलवती (ख) बलवान् (क)

)vi पुस्तकानि .....(टाप्+ बालक) ..... तानि सर्वाणि (सन्ति ।

:बालिका (ग) बालिका (ख) बालिकायाः (क)

(vii) तत्र अनेकाः गुण + मतुप् नार्यः आसन् |

(क) गुणवान् (ख) गुणवन्तीः (ग) गुणवत्यः

(viii) साप्ताहिकः अवकाशः रविवासरे भवति।

(क) सप्ताह+ठक् (ख) साप्ताह+इक् (ग) सप्ताह+मतुप्

(ix) मम माता शिक्षक+टाप् अस्ति।

(क) शिक्षका (ख) शिक्षिकाः (ग) शिक्षिका

(x) जनाः प्रतिदिनं भग+मतुप् नमन्ति ।

(क) भगवान् (ख) भगवता (ग) भगवन्तम्

10 अधोलिखितवाक्येषु प्रदत्तविकल्पेभ्यः वाच्यपरिवर्तनं कृत्वा लिखत

(i) मोहन: - कमले ! किं त्वया प्रदर्शनी ..... ।

(क) दृश्यसे (ख) दृश्यते (ग) दृश्ये

(ii) कमला - आम् ! अहं प्रदर्शनीम् एव द्रष्टुं .....।

(क) गच्छामः (ख) गच्छामि (ग) गम्यते

(iii) मोहनः - अधुना यावत् ..... कथं न गता।

(क) त्वया (ख) त्वम् (ग) तुभ्यम्

(iv) कमला - अहं स्वपरीक्षायाः सज्जायां व्यस्ता ..... ।

(क) आसीत् (ख) आसन् (ग) आसम्

(v) परोपकारी .....करोति।

(क) परोपकारम् (ख) परोपकारः (ग) परोपकारेण

(vi) परोपकारी .....करोति ।

क) छात्राः ख) छात्रः ग) छात्रम्

(vii) छात्रैः ..... ।

क) वदति ख) वदन्ति ग) उद्यते

(viii) सर्वैः.....श्रूयते ।

(क) कथाः ख) कथाम् ग) कथा

(ix) शिष्यैः गुरुः .....।

(क) नम्यते ख) नम्यन्ते ग) नमन्ति

(x) बालकाः फलानि.....।

(क) खाद्यते ख) खाद्यन्ते ग) खादन्ति

11 -उचितपदैः अधोलिखितवाक्येषु रेखांकितपदानि संशोध्य लिखत - (केवलं प्रश्नत्रयम्)

i. यत्रास्ते सा धूर्तः तत्र गम्यताम् ।

(अ)धूर्त (ब) धूर्ता (स) धूर्तः

ii. मनम् शोषयत् तनुः पेषयत् सदा वक्रम् भ्रमति ।

(अ) मनवः (ब) मनाः (स) मनः

iii. जानन्तिअहं तस्य नामधेयम् ।

(अ) जानाति (ब) जानीमः (स) जानामि

iv. दुर्बले सुते मातुः अभ्यधिका कृपा सहजाःएव ।

(क) सहजा (ब) सहजः (स) सहजम्

(v) वृद्धा भिक्षुकस्य भोजनं अयच्छत्।

(क भिक्षुकः ((ख भिक्षुकं ((ग भिक्षुकाय (

(vi) संसारे अनुशासनस्य <u>महत्</u> आवश्यकता वर्तते।

(क महती ((ख महान् ((गमहान (

(vii) सज्जनः परेभ्यः अहितं <u>कर्मः</u> न करोति।

(ककर्मम् ((ख कर्मणा ((ग कर्म (

(viii) वृक्षात् शुष्कानि पत्राणि <u>पतथ</u>।

(कपतन्ति ((ख पततः ((ग पतति (

(ix) सुरेशः <u>नेत्रयोः</u> पश्यति ।

नेत्राभ्याम् (क) नेत्रेभ्यः (ख) नेत्रैः (ग)

(x) पाठ्यपुस्तके अष्ट <u>पाठानि</u> सन्ति ।

पाठाः (क) पाठः (ग) पाठान् (ख)

12 **अधोलिखितवाक्येषु वाक्यानुगुणम् उचिताव्ययपदं प्रदत्तविकल्पेभ्यः चिनुत–**

(i) कक्षायां छात्राः वदन्ति। ----------

(i) उच्चैः (ii) वृथा (iii) इतस्ततः (iv) सहसा

(ii) ऋषभः बिलासपुरम् गतवान् । ----------

(i) श्वः (ii) ह्यः (iii) सम्प्रति (iv) शनैः

(iii) यदि सफलताम् इच्छति | परिश्रमं कुरु----------

(i) कुतः (ii) किमर्थम् (iii) तर्हि (iv) श्वः

)iv(.....स्थाष्यन्ति गिरयः तावत्रामायणि कथा प्रचरिष्यति |

(i) च (ii) श्वः (iii) यावत् (iv) इदानीम्

(v) ज्वालामालाकुलाः अश्वाः प्राणत्राणायअधावन् .....।

(i)अपि (ii) इतस्ततः (iii) शनैः (ग) उच्चैः

(vi) ..... 'अहम् इदं कार्यं पुनः करिष्यामि'सः दृढतया अवदत्।

(i)तर्हि ((iiइति (iii) यथा च (iv)

(vii) गृहे ..... कलहं मा कुरुत |

(i) कुतः (ii) वृथा (iii) यथा च (iv)

vii)i (..... छात्राः विद्यालयात् आगछन्ति |

(i) श्वः (ii) ह्यः (iii) इदानीम् (iv) यथा

)i(x यदि .....चित्ते, तथा वाचि अवक्रता भवेत्।

i)) तर्हि (ii) तदा (iii) यथा कदा (iv)

(x) निर्जनस्थाने रोदनं ..... भवति।

(i) श्व : (ii) वृथा (iii) एव अपि (iv)

13. कयोश्चित द्वयो कविभ्यां :ग्रंथसन्दर्भ सहित परिचयं लिखित्वा आनयन्तु । (परियोजना कार्यम्(

MATHEMATICS

Q1 Find the HCF of 24 , 36, 56 by Prime factorisation method.

Q2 Find the HCF of 28, 40, 64 by Prime factorisation method.

Q3 Find the HCF of 30, 48, 72 by Prime factorisation method.

Q4 Find the HCF of 18, 24, 40, 50 by Prime factorisation method.

Q5 Find the HCF of 27, 32, 39, 54 by Prime factorisation method.

Q6 Find the LCM of 20 , 36, 96 by Prime factorisation method.

Q7 Find the LCM of 45, 75 , 100 by Prime factorisation method.

Q8 Find the LCM of 20 , 36, 64 by Prime factorisation method.

Q9 Find the LCM of 14,22,34,48 by Prime factorisation method.

Q10 Find the LCM of 64,72,120,148 by Prime factorisation method.

Q11 Prove that $\sqrt{2}$ is an irrational number.

Q12 Prove that $\sqrt{3}$ is an irrational number.

Q13 Prove that $\sqrt{5}$ is an irrational number.

Q14 Prove that $\sqrt{7}$ is an irrational number.

Q15 Prove that $2+\sqrt{3}$ is an irrational number.

Q16 Prove that $\frac{3}{5}-\sqrt{7}$ is an irrational number.

Q17 Write whether $\frac{2\sqrt{45}+3\sqrt{20}}{2\sqrt{5}}$ on simplification gives a rational or irrational number.

Q18 Show that 4^n can never end with the digit zero for any natural number n.

Q19 Show that 6^n can never end with the digit zero for any natural number n.

Q20 The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number.

Q21 Find the product of HCF and L. C. M. of $2^3 \times 3^2$ and $2^2 \times 3^3$.

Q22 Find the LCM and HCF of 336 and 54 and verify that LCM×HCF = Product of the two numbers.

Q23 Find the largest number that will divide 398, 436 and 542 leaving remainder 7, 11 and 15 respectively .

Q24 What is the HCF of the smallest prime number and the smallest composite number?

Q25 Find the LCM of first ten natural numbers.

Q26 Find the values of k so that $(x-1)$ is a factor of $k^2x^2 - 2kx - 3$.

Q27 If $(x+a)$ is a factor of $2x^2 + 2ax + 5x + 10$, find a.

Q28 Write the zeroes of the polynomial $x^2 - x - 6$.

Q29 Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients of the polynomial.

Q30 For what value of *k,* (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$?

Q31 Write the polynomial, the product and sum of whose zeroes are $-\frac{9}{2}$ and $-\frac{3}{2}$ respectively.

Q32 If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a-1)x - 1$, then find the value of a .

Q33 If α and β are zeroes of the quadratic polynomial $x^2 - 6x + a$; find the value of 'a' if $3\alpha + 2\beta = 20$.

Q34 If α and β are the zeroes of a polynomial, such that $\alpha + \beta = 6$ and $\alpha\beta = 4$, then write the polynomial.

Q35 For what value of *k,* is 3 a zero of the polynomial $2x^2 + x + k$?

Q36 If 2 and -3 are the zeroes of the quadratic polynomial $x^2 + (a+1)x + b$, then find the values of a and b.

Q37 If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q.

Q38 Find a quadratic polynomial with zeroes $3 + \sqrt{2}$ and $3 - \sqrt{2}$.

Q39 Find the zeroes of the quadratic polynomial $3t^2 - 6t + 1$ and verify the relationship between the zeroes and the coefficients.

Q40 If α and β are the zeroes of the quadratic polynomial $p(x) = x^2 - (k+6)x + 2(2k-1)$, then find the value of k, if $\alpha + \beta = \frac{1}{2}\alpha\beta$.

Q41 The ages of two girls are in the ratio 5 : 7. Eight years ago, their ages were in the ratio 7 : 13. Find their present ages.

Q42 For what value of k will the following system of linear equations have an infinite number of solutions: $2x + 3y = 2$; $(k+2)x + (2k+1)y = 2(k-1)$?

Q43 Find the values of p and q for which the following system has infinite solutions. $2x + 3y = 7$; $(p+q)x + (2p-q)y = 21$.

Q44 The sum of a two-digit number and the number obtained by reversing the order of the digits is 165. If the difference of digits differs by 3, find the number.

Q45 Solve for x and y : x + y = 10
x – y = 8

Q46 Solve for x and y : x + 3y = 18
x – 2y = 5

Q47 Solve for x and y : 2x - y = 13
x + 2y = 25

Q48 Solve for x and y : 4x + 3y = 18
3x – 2y = 9

Q49 Solve for x and y : 6x + y = 21
5x – 2y = 5

Q50 Solve for x and y : 7x - 4y = 25
4x – 3y = 12

Q51 Solve for x and y : 2x + 3y = 10
4x – 2y = 5

Q52 Solve for x and y : 3x + 4y = 27
2x – y = 5

Q53 Solve for x and y : 4x - 3y = 10
3x + 2y = 36

Q54 Solve for x and y : 3x + 5y = 14
2x – 3y = 9/2

Q55 Solve for x and y : 2x + 3y = 24
5x – 4y = 7/3

Q56 Solve for x and y : 2x/3 + 3y = 11
x – 2y/5 = 5

Q57 Solve for x and y : 2x + ¾ y = 12

x – 2y = 5/6

Q58 Solve for x and y : 3x/4 + 2y/9 = 3

x – 5y/4 – 1 = 0

Q59 Solve for x and y : 2(x – y) + 3y = 8

x – 2(x + y) = 7

Q60 Solve for x and y : 3(x + y) + 4x – 10 = 0

x – 2(y – x) = 5/2

Q61 Solve for x and y: $4x + \frac{y}{3} = \frac{8}{3}$; $\frac{x}{2} + \frac{3y}{4} = -\frac{5}{2}$

Q62 Find the value of $\boldsymbol{a}$ so that the point $(3, a)$, lies on the line represented by $2x - 3y = 5$.

Q63 For what value of k will the following pair of linear equations have no solution? $2x + 3y = 9$; $6x + (k - 2)y = (3k - 2)$

Q64 The sum of numerator and denominator of a fraction is 3 less than twice the denominator. If each of the numerator and denominator is decreased by 1, the fraction becomes $\frac{1}{2}$. Find the fraction.

Q65 The sum of the numerator and the denominator of a fraction is 4 more than twice the numerator. If 3 is added to each of the numerator and denominator, their ratio becomes 2 : 3. Find the fraction.

Q66 The sum of the numerator and the denominator of a fraction is 8. If 3 is added to both the numerator and the denominator, the fraction becomes $\frac{3}{4}$. Find the fraction.

Q67 For what value of p will the following pair of linear equations have infinitely many solutions? $(p - 3)x + 3y = p$; $px + py = 12$.

Q68 Find the value of m for which the pair of linear equations $2x + 3y - 7 = 0$ and $(m - 1)x + (m + 1)y = (3m - 1)$

Q69 Solve for x and y: $31x + 29y = 33$; $29x + 31y = 27$

Q70 Solve for x and y: $99x + 101y = 499$; $101x + 99y = 501$.

Q71 Solve for x and y: $37x + 43y = 123$, $43x + 37y = 117$.

Q72 For which value of k will the following pair of linear equations have no solution? $3x + y = 1, (2k - 1)x + (k - 1)y = 2k + 1$.

Q73 The sum of digits of a two-digit numbers is 7. If the digits are reversed, the new number decreased by 2 equals twice the original number. Find the number.

Q74 Determine the value of m and n so that the following pair of linear equations have infinitely many solutions?

$$(2m-1)x+3y=5; \qquad 3x+(n-1)y=2.$$

Q75 A two digit number is equal to 7 times the sum of its digits. The number formed by reversing its digits is less than the original number by 18. Find the original number.

Q76 The age of the father is twice the sum of the ages of his 2 children. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father.

Q77 If the pair of linear equations $10x+5y-(k-5)=0$ and $20x+10y-k=0$ have infinitely many solutions, then find the value of k.

Q78 For what value of k will the pair of equations have no solution?

$3x+y=1; \quad (2k-1)x+(k-1)y=2k+1$

Q79 A and B are friends and their ages differ by year. A's father D is twice as old as A and B is twice as old as his sister C. The age of D and C differ by 40 years. Find the ages of A and B.

Q80 A part of monthly hostel charges in a college are fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days, he has to pay Rs. 1000 as hostel charges where as a student B, who takes food for 26 days, pays Rs. 1180 as hostel charges. Find the fixed charge and the cost of food per day.

Q81 The area of a rectangle reduces by 160 m^2 if its length is increased by 5 m and breadth is reduced by 4 m. However, if length is decreased by 10 m and breadth is increased by 2 m, then its area is decreased by 100 m^2. Find the dimensions of the rectangle.

Q82 At a certain time in a zoo, the number of heads and the number of legs of tiger and peacocks were counted and it was found that there were 47 heads and 152 legs. Find the number of tigers and peacocks in the zoo. Why it is necessary to conserve these animals?

Q83 4 chairs and 3 tables cost Rs. 2100 and 5 chairs and 2 tables cost Rs. 1750. Find the cost of one chair and one table separately.

Q84 Determine value(s) of p for which the quadratic equation

$4x^2-3px+9=0$ has real roots.

Q85 Using quadratic formula, solve the following quadratic equation for x:

$p^2x^2+(p^2-q^2)x-q^2=0.$

Q86 Find the discriminant of the quadratic equation: $3\sqrt{3}x^2+10x+\sqrt{3}=0$

Q87 Write the nature of roots of quadratic equation $4x^2+4\sqrt{3}x+3=0$.

Q88 Solve the following equation for x: $\frac{3x-4}{7}+\frac{7}{3x-4}=\frac{5}{2}, \ x\neq\frac{4}{3}$

Q89 Find the roots of the equation $\frac{1}{2x-3}+\frac{1}{x-5}=1, x \neq \frac{3}{2},\ 5.$

Q90 Find the roots of the following quadratic equation: $x^2-3\sqrt{5}x+10=0.$

Q91 Find the roots of the following quadratic equation: $\sqrt{3}x^2-2\sqrt{5}x\ -2\sqrt{3}=0.$

Q92 For what value of k, are the roots of the quadratic equation

$kx(3x-10)+25=0$ equal?

Q93 Solve for *x*: $2\sqrt{3}x^2-5x+\sqrt{3}=0.$

Q94 Solve for *x*: $\sqrt{3}x^2-2\sqrt{2}x-2\sqrt{3}=0.$

Q95 Solve for *x*: $\frac{1}{x\ +\ 4}-\frac{1}{x\ -7}=\frac{11}{30}, x \neq\ -4,\ 7.$

Q96 Solve for *x*: $a^2+b^2x^2+b^2x-a^2x-1=0.$

Q97 Solve for *x*: $\frac{x\ -\ 1}{x-\ 2}+\frac{x-3}{x-4}=3\frac{1}{3}.$

Q98 Solve for *x*: $\frac{1}{a+b+x}=\frac{1}{a}+\frac{1}{b}+\frac{1}{x}; a \neq 0, b \neq 0, x \neq 0.$

Q99 Solve for *x*: $12abx^2 —\ (9a^2 —\ 8b^2)\ x\ -\ 6ab\ =\ 0$

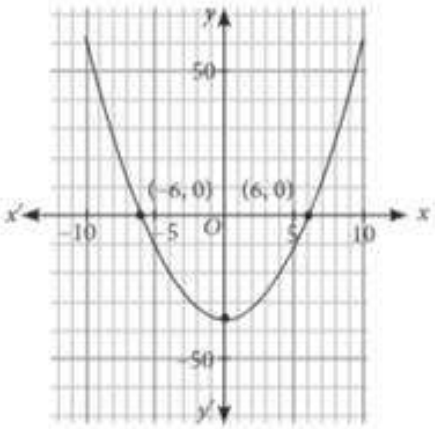
Q100 The sum of the areas of two squares is 640 m^2. If the difference in their perimeters be 64 m, find the sides of the two squares.

MATHS- CASE STUDY

Q.1

Honeycomb

While playing in garden, Sahiba saw a honeycomb and asked her mother what is that. She replied that it's a honeycomb made by honey bees to store honey. Also, she told her that the shape of the honeycomb formed is parabolic. The mathematical representation of the honeycomb structure is shown in the graph.



Based on the above information, answer the following questions.

(i) Graph of a quadratic polynomial is _____ in shape.

(a) straight line (b) parabolic

(c) circular (d) None of these

(ii) The expression of the polynomial represented by the graph is

(a) $x^2 - 49$ (b) $x^2 - 64$ (c) $x^2 - 36$ (d) $x^2 - 81$

(iii) Find the value of the polynomial represented by the graph when $x = 6$.

(a) −2 (b) −1 (c) 0 (d) 1

(iv) The sum of zeroes of the polynomial $x^2 + 2x - 3$ is

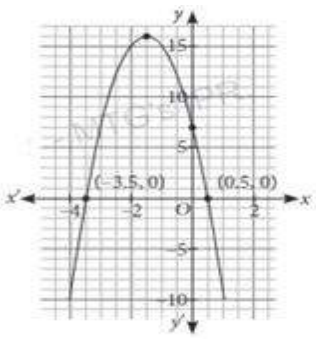
(a) −1 (b) −2 (c) 2 (d) 1

(v) If the sum of zeroes of polynomial $at^2 + 5t + 3a$ is equal to their product, then find the value of a.

(a) −5 (b) −3 (c) $\frac{5}{3}$ (d) $\frac{-5}{3}$

Q.2

Just before the morning assembly a teacher of kindergarten school observes some clouds in the sky and so she cancels the assembly. She also observes that the clouds has a shape of the polynomial. The mathematical representation of a cloud is shown in the figure.



(i) Find the zeroes of the polynomial represented by the graph.

(a) $-1/2, 7/2$ (b) $1/2, -7/2$ (c) $-1/2, -7/2$ (d) $1/2, 7/2$

(ii) What will be the expression for the polynomial represented by the graph?

(a) $p(x) = 12x^2 - 4x - 7$ (b) $p(x) = -x^2 - 12x + 3$ (c) $p(x) = 4x^2 + 12x + 7$ (d) $p(x) = -4x^2 - 12x + 7$

(iii) What will be the value of polynomial represented by the graph, when $x = 3$?

(a) 65 (b) -65 (c) 68 (d) -68

(iv) If α and β are the zeroes of the polynomial $f(x) = x^2 + 2x - 8$, then $\alpha^4 + \beta^4 =$

(a) 262 (b) 252 (c) 272 (d) 282

(v) Find a quadratic polynomial where sum and product of its zeroes are $0, \sqrt{7}$ respectively.

(a) $k(x^2 + \sqrt{7})$ (b) $k(x^2 - \sqrt{7})$ (c) $k(x^2 + \sqrt{5})$ (d) none of these

Q.3

Avocado

Pankaj's father gave him some money to buy avocado from the market at the rate of $p(x) = x^2 - 24x + 128$. Let α, β are the zeroes of $p(x)$.

Based on the above information, answer the following questions.

(i) Find the value of α and β, where $\alpha < \beta$.

(a) $-8, -16$ (b) 8, 16 (c) 8, 15 (d) 4, 9

(ii) Find the value of $\alpha + \beta + \alpha\beta$.

(a) 151 (b) 158 (c) 152 (d) 155

(iii) The value of $p(2)$ is

(a) 80 (b) 81 (c) 83 (d) 84

(iv) If α and β are zeroes of $x^2 + x - 2$, then $\frac{1}{\alpha} + \frac{1}{\beta} =$

(a) 1/2 (b) 1/3 (c) 1/4 (d) 1/5

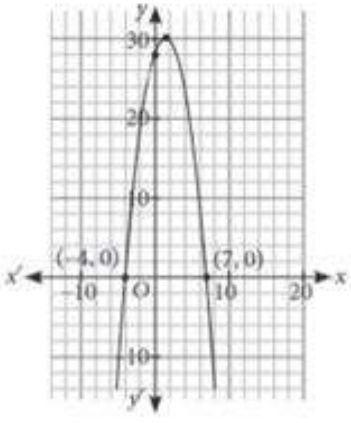
(v) If sum of zeroes of $q(x) = kx^2 + 2x + 3k$ is equal to their product, then $k =$

(a) 2/3 (b) 1/3 (c) $-2/3$ (d) $-1/3$

Q.4

Mountain Trekking

Two friends Trisha and Rohan during their summer vacations went to Manali. They decided to go for trekking. While trekking they observes that the trekking path is in the shape of a parabola. The mathematical representation of the track is shown in the graph.



Based on the above information, answer the following questions.

(i) The zeroes of the polynomial whose graph is given, are

(a) 4, 7 (b) –4, 7 (c) 4, 3 (d) 7, 10

(ii) What will be the expression of the given polynomial $p(x)$?

(a) $x^2 - 3x + 28$ (b) $-x^2 + 4x + 28$ (c) $x^2 - 4x + 28$ (d) $-x^2 + 3x + 28$

(iii) Product of zeroes of the given polynomial is

(a) –28 (b) 28 (c) –30 (d) 30

(iv) The zeroes of the polynomial $9x^2 - 5$ are

(a) $\frac{3}{\sqrt{5}}, \frac{-3}{\sqrt{5}}$ (b) $\frac{2}{\sqrt{5}}, \frac{-2}{\sqrt{5}}$ (c) $\frac{\sqrt{5}}{3}, \frac{-\sqrt{5}}{3}$ (d) $\frac{\sqrt{5}}{2}, \frac{-\sqrt{5}}{2}$

(v) If $f(x) = x^2 - 13x + 1$, then $f(4) =$

(a) 35 (b) –35 (c) 36 (d) –36

Q.5

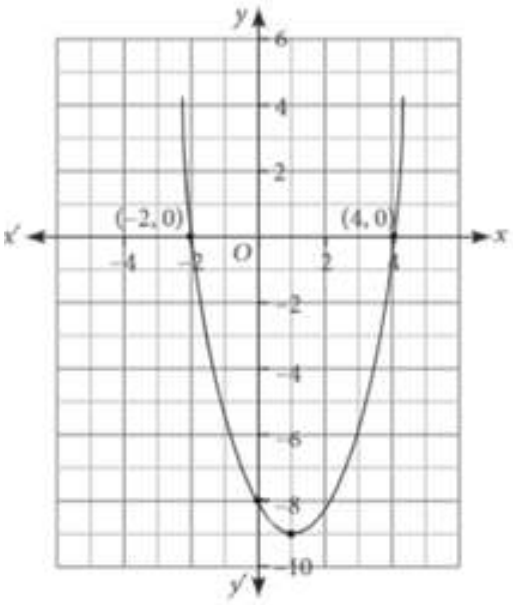
Neeru saw a creeper on the boundary of her aunt's house which was in the shape as shown in the figure. Answer the following questions by considering that creeper has same mathematical shape as shown in the figure.
Based on the above information, answer the following questions.

(i) The shape represents a _____ polynomial.

(a) Linear (b) Cubic
(c) Quadratic (d) None of these

(ii) How many zeroes does the polynomial (shape of the creeper) have?

(a) 0 (b) 1
(c) 2 (d) 3



(iii) The zeroes of the polynomial, represented by the graph, are

(a) 4, –2 (b) –4, 2 (c) 4, 2 (d) –5, 6

(iv) The expression of the polynomial, represented by the graph, is

(a) $x^2 + 2x - 8$ (b) $x^2 - 2x - 8$ (c) $x^3 - x + 8$ (d) $x^3 - x^2 + 2x + 8$

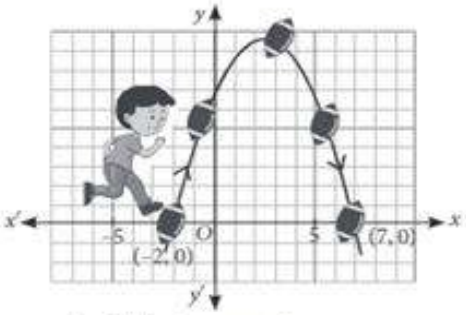
(v) For what value of x, the value of the polynomial, represented by the graph, is –5?

(a) $x = 3$ (b) $x = -1$ (c) Both (a) and (b) (d) Can't be determined

Q.6

Soccer Match

In a soccer match, the path of the soccer ball in a kick is recorded as shown in the following graph.



Based on the above information, answer the following questions.

(i) The shape of path of the soccer ball is a
(a) Circle (b) Parabola (c) Line (d) None of these

(ii) The axis of symmetry of the given parabola is
(a) y-axis (b) x-axis
(c) line parallel to y-axis (d) line parallel to x-axis

(iii) The zeroes of the polynomial, represented in the given graph, are
(a) –1, 7 (b) 5, –2 (c) –2, 7 (d) –3, 8

(iv) Which of the following polynomial has –2 and –3 as its zeroes?
(a) $x^2 - 5x - 5$ (b) $x^2 + 5x - 6$ (c) $x^2 + 6x - 5$ (d) $x^2 + 5x + 6$

(v) For what value of 'x', the value of the polynomial $f(x) = (x - 3)^2 + 9$ is 9?
(a) 1 (b) 2 (c) 3 (d) 4

Q.7

Slinky Spring Dog Toy

Prachi was playing with a slinky spring dog toy and asked her brother Rhythm, what is the shape thus formed called. Rhythm explained her that the shape formed is a parabola. He also explained her that parabola is the graphical representation of a quadratic polynomial.

Based on the above information, answer the following questions.

(i) The general form of polynomial representing the parabolic graph is
(a) $ax^2 + c, a \neq 0$ (b) $ax^2 + bx + c, b \neq 0$
(c) $ax^2 + bx + c, a, b$ and $c \neq 0$ (d) $ax^2 + bx + c, a \neq 0$

(ii) Kavita drawn a parabola passing through (–4, 3), (–1, 0), (1, 8), (0, 3), (–3, 0) and (–2, –1) on the graph paper. Then zeroes of the polynomial representing the graph is
(a) 3 and –3 (b) –1 and –2 (c) –3 and –1 (d) 1 and 8

(iii) Which of the following is correct?
(a) A parabola intersects x-axis at maximum 2 points.
(b) A parabola intersects x-axis only at 1 point.
(c) A parabola intersects x-axis exactly at 2 points.
(d) A parabola intersects x-axis at least at 2 points.

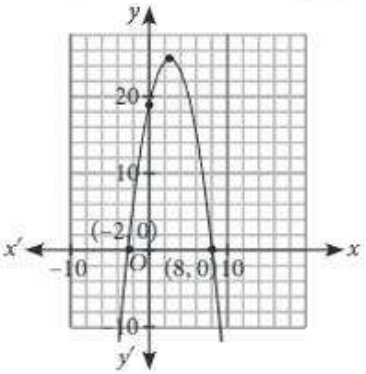
(iv) The product of roots of the polynomial $5x(x - 6)$ is
(a) 3/2 (b) 2/3 (c) 3 (d) 0

(v) The sum of zeroes of a quadratic polynomial $ax^2 + bx + c, a \neq 0$ is
(a) a/b (b) a/c (c) $-b/a$ (d) $-c/a$

Q.8

Application of Quadratic Polynomial–Highway Tunnel

Shweta and her husband Sunil who is an architect by profession, visited France. They went to see Mont Blanc Tunnel which is a highway tunnel between France and Italy, under the Mont Blanc Mountain in the Alps, and has a parabolic cross-section. The mathematical representation of the tunnel is shown in the graph.



Based on the above information, answer the following questions.

(i) The zeroes of the polynomial whose graph is given, are

(a) –2, 8 (b) –2, –8 (c) 2, 8 (d) –2, 0

(ii) What will be the expression of the polynomial given in diagram?

(a) $x^2 - 6x + 16$ (b) $-x^2 + 6x + 16$ (c) $x^2 + 6x + 16$ (d) $-x^2 - 6x - 16$

(iii) What is the value of the polynomial, represented by the graph, when $x = 4$?

(a) 22 (b) 23 (c) 24 (d) 25

(iv) If the tunnel is represented by $-x^2 + 3x - 2$, then its zeroes are

(a) –1, –2 (b) 1, –2 (c) –1, 2 (d) 1, 2

(v) If one zero is 4 and sum of zeroes is –3, then representation of tunnel as a polynomial is

(a) $x^2 - x + 24$ (b) $-x^2 - 3x + 28$ (c) $x^2 + x + 28$ (d) $x^2 - x + 28$

Q.9

Application of Polynomials–Architectural Structures

Quadratic polynomial can be used to model the shape of many architectural structures in the world. Pershing field of Jersey city in US is one such structure.
Based on the above information, answer the following questions.

(i) If the Arch is represented by $10x^2 - x - 3$, then its zeroes are

(a) $\frac{1}{2}, \frac{-3}{2}$ (b) $\frac{-1}{2}, \frac{3}{5}$ (c) $\frac{-1}{2}, \frac{1}{3}$ (d) $\frac{-1}{3}, \frac{2}{3}$

(ii) The zeroes of the polynomial are the points where its graph

(a) intersect the x-axis (b) intersect the y-axis
(c) intersect either of the axes (d) Can't say

(iii) The quadratic polynomial whose sum of zeroes is 0 and product of zeroes is 1 is given by

(a) $x^2 - x$ (b) $x^2 + x$ (c) $x^2 - 1$ (d) $x^2 + 1$

(iv) Which of the following has $\frac{-1}{2}$ and 2 as their zeroes?

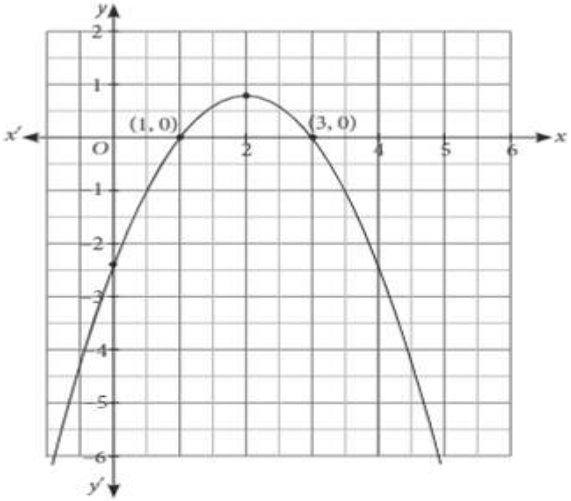
(a) $6x^2 - 4x + 6$ (b) $3x^2 - x + 2$ (c) $2x^2 - 7x + 2$ (d) $2x^2 - 3x - 2$

(v) The product of zeroes of the polynomial $\sqrt{3}x^2 - 14x + 8\sqrt{3}$ is

(a) 4 (b) 6 (c) 8 (d) 10

Q.10

Priya visited a temple in Gwalior. On the way she sees the Agra Fort. The entrance gate of the fort has a shape of quadratic polynomial (parabolic). The mathematical representation of the gate is shown in the figure.



Based on the above information, answer the following questions.

(i) Find the zeroes of the polynomial represented by the graph.
(a) $-1, 3$ (b) $1, 3$ (c) $1, -3$ (d) $0, 1$

(ii) What will be the expression for the polynomial represented by the graph?
(a) $x^2 + 4x - 5$ (b) $x^2 - 4x + 5$ (c) $-x^2 + 4x - 3$ (d) $x^2 + 5x - 4$

(iii) What will be the value of polynomial, represented by the graph, when $x = 4$?
(a) -2 (b) 3 (c) -3 (d) 2

(iv) If one zero of a polynomial $p(x)$ is 7 and product of its zeroes is -35, then $p(x) =$
(a) $-x^2 + 2x + 35$ (b) $x^2 + 2x + 35$ (c) $x^2 + 12x - 35$ (d) $x^2 - 12x - 35$

(v) If the gate is represented by the polynomial $-x^2 + 5x - 6$, then its zeroes are
(a) $2, -3$ (b) $2, 3$ (c) $-2, 3$ (d) $-2, -3$

Q.11

Social Service

Shray, who is a social worker, wants to distribute masks, gloves, and hand sanitizer bottles in his block. Number of masks, gloves and sanitizer bottles distributed in 1 day can be represented by the zeroes $\alpha, \beta, \gamma, (\alpha > \beta > \gamma)$ of the polynomial $p(x) = x^3 - 18x^2 + 95x - 150$.




Based on the above information, answer the following questions.

(i) Find the value of α, β, γ.
(a) $-10, -5, -3$ (b) $3, 6, 5$
(c) $10, 5, 3$ (d) $4, 8, 9$

(ii) The sum of product of zeroes taken two at a time is
(a) 91 (b) 92 (c) 94 (d) 95

(iii) Product of zeroes of polynomial $p(x)$ is
(a) 150 (b) 160 (c) 170 (d) 180

(iv) The value of the polynomial $p(x)$, when $x = 4$ is
(a) 5 (b) 6 (c) 7 (d) 8

(v) If α, β, γ are the zeroes of a polynomial $g(x)$ such that $\alpha + \beta + \gamma = 3$, $\alpha\beta + \beta\gamma + \gamma\alpha = -16$ and $\alpha\beta\gamma = -48$, then $g(x) =$
(a) $x^3 - 2x^2 - 48x + 6$ (b) $x^3 + 3x^2 + +16x - 48$
(c) $x^3 - 48x^2 - 16x + 3$ (d) $x^3 - 3x^2 - 16x + 48$

Q.12

Barrier Chains

While playing badminton Ronit seeing the barrier chains hung between two posts at the edge of the walk way of a street. It is hung in the shape of the parabola. Parabola is the graphical representation of a particular type of polynomial.
Based on the above information, answer the following questions.

(i) Which of the following polynomial is graphically represented by a parabola?
(a) Linear polynomial (b) Quadratic polynomial
(c) Cubic polynomial (d) None of these

(ii) If a polynomial, represented by a parabola, intersects the x-axis at -3, 4 and y-axis at -2, then its zero(es) is/are
(a) -1, 2 and -2 (b) 2 and -2 (c) -1 (d) -3 and 4

(iii) If the barrier chains between two posts is represented by the polynomial $x^2 - x - 12$, then its zeroes are
(a) 4, 3 (b) -2, 5 (c) 4, -3 (d) 4, -5

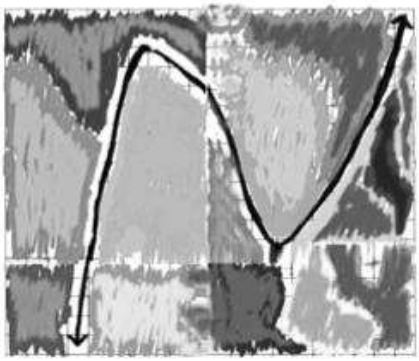
(iv) The sum of zeroes of the polynomial $4x^2 - 9x + 2$ is
(a) 1/4 (b) 9/4 (c) 2/4 (d) $-9/4$

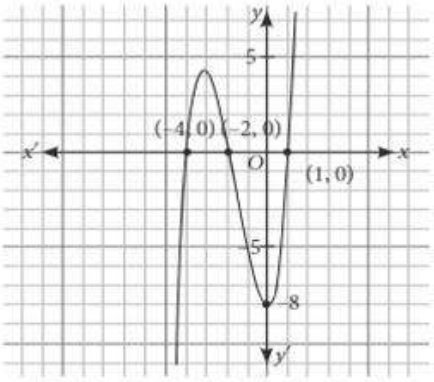
(v) The reciprocal of product of zeroes of the polynomial $x^2 - 9x + 20$ is
(a) 5 (b) 1/8 (c) 1/20 (d) 20

Q.13

Painting Exhibition

Shruti is very good in painting. So she thought of exhibiting her paintings in which she want to display her latest painting which is in the form of a graph of a polynomial as shown below :





Based on the above information, answer the following questions.

(i) The number of zeroes of the polynomial represented by the graph is
(a) 1 (b) 2 (c) 3 (d) can't be determined

(ii) The sum of zeroes of the polynomial represented by the graph is
(a) -4 (b) -3 (c) 2 (d) -5

(iii) Find the value of the polynomial represented by the graph when $x = 0$.
(a) -6 (b) -8 (c) 6 (d) 8

(iv) The polynomial representing the graph drawn in the painting by Shruti is a
(a) quadratic polynomial (b) cubic polynomial
(c) bi-quadratic polynomial (d) linear polynomial

(v) The sum of product of zeroes, taken two at a time, of the polynomial represented by the graph is
(a) 2 (b) 3 (c) -2 (d) -3

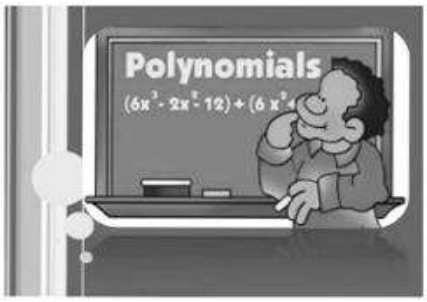
Q.14

The tutor in a coaching centre was explaining the concept of cubic polynomial as - A cubic polynomial is of the form $ax^3 + bx^2 + cx + d$, $a \neq 0$ and it has maximum three real zeroes. The zeroes of a cubic polynomial are namely the x-coordinates of the points where the graph of the polynomial intersects the x-axis. If α, β and γ are the zeroes of a cubic polynomial $ax^3 + bx^2 + cx + d$, then the relation between their zeroes and their coefficients are

$\alpha + \beta + \gamma = -b/a$

$\alpha\beta + \beta\gamma + \alpha\gamma = c/a$

$\alpha\beta\gamma = -d/a$



Based on the above information, answer the following questions.

(i) Which of the following are the zeroes of the polynomial $x^3 - 4x^2 - 7x + 10$?

(a) –3, 1 and 3 (b) –1, 2 and –3

(c) 2, –1 and 5 (d) –2, 1 and 5

(ii) If $-\frac{1}{2}$, –2 and 5 are zeroes of a cubic polynomial, then the sum of product of zeroes taken two at a time is

(a) $\frac{23}{2}$ (b) $-\frac{1}{2}$

(c) –23 (d) $-\frac{23}{2}$

(iii) In which of the following polynomials the sum and product of zeroes are equal ?

(a) $x^3 - x^2 + 5x - 1$ (b) $x^3 - 4x$

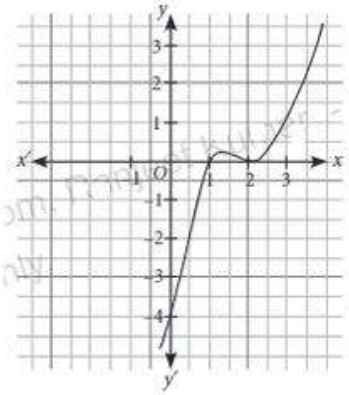
(c) $3x^3 - 5x^2 - 11x - 3$ (d) Both (a) and (b)

(iv) The polynomial whose all the zeroes are same is

(a) $x^3 + x^2 + x - 1$ (b) $x^3 - 3x^2 + 3x - 1$

(c) $x^3 - 5x^2 + 6x - 1$ (d) $3x^3 + x^2 + 2x - 1$

(v) The cubic polynomial, whose graph is as shown below, is



(a) $x^3 - 5x^2 + 8x - 4$ (b) $x^3 - 7x^2 + 11x + 9$

(c) $3x^3 - 4x^2 + x - 5$ (d) $x^3 - 9$

SCIENCE- BIOLOGY

Answer the following questions :

1. "All plants give out oxygen during day and carbon dioxide during night". Do you agree with this statement? Give reason.
2. How do the guard cells regulate opening and closing of stomatal pores?
3. Is 'nutrition' a necessity for an organism? Discuss.
4. What would happen if green plants disappear from earth?
5. What are the adaptations of leaf for photosynthesis?
6. Why is small intestine in herbivores longer than in carnivores?
7. What will happen if mucus is not secreted by the gastric glands?
8. What is the significance of emulsification of fats?
9. Why does absorption of digested food occur mainly in the small intestine?
10. Name the energy currency in the living organisms. When and where is it produced?
11. What is common for cuscuta, ticks and leeches?
12. Explain the role of mouth (Oral cavity) in digestion of food.
13. What are the functions of gastric glands present in the wall of the stomach?
14. Name the correct substrates for the following enzymes
    (a) Trypsin (b) Amylase (c) Pepsin (d) Lipase
15. Plants have low energy needs as compared to animals. Explain.
16. Why is transpiration important for plants?
17. Explain the process of nutrition in Amoeba with the help of labeled diagram.
18. (a) State the role played by the following in the process of digestion :
    (i) Enzyme trypsin
    (ii) Enzyme lipase-
    (b) List two functions of finger-like projections present in the small intestine.
19. Explain the significance of photosynthesis. Write the balanced chemical equation involved in the process.
20. Differentiate between autotrophs and hetero- trophs and give one example of each.
21. (a) What is peristaltic movement?
    (b) 'Stomata remain closed in desert plants during daytime'. How do they do photosynthesis?
22. Diffusion is insufficient to meet the oxygen requirement of multicellular organisms like human. State reason..
23. Write two different ways in which glucose is oxidised to provide energy in human body. Write the products formed in each case.
24. Write three points of difference between breathing and respiration.
25. Draw the labeled diagram of the following –
    (a) Stomatal apparatus
    (b) Cross section of leaf
    (c) Human respiratory system.

PHYSICS

Numericals-

1. Find the focal length of a convex mirror whose radius of curvature is 32 cm.
2. The radius of curvature of a concave mirror is 25 cm. What is its focal length?
3. Focal length of a convex mirror is 50 cm. Calculate its radius of curvature.

4. A concave mirror produces a 10 cm long image of an object of height 2 cm. What is the magnification produced?
5. An object 1 cm high is placed near a concave mirror and produces a magnification of 10. How tall is the image?
6. An object 4 cm high is placed 25 cm in front of a concave mirror of focal length 15 cm. Find the position, nature, and size of the image.
7. An object of size 7.0 cm is placed at 27 cm in front of a concave mirror of focal length 18 cm. Where should a screen be placed for a sharp image? Find the size and nature of the image.
8. An object of size 1 cm is placed 15 cm in front of a concave mirror of focal length 10 cm. Find the position, nature, and size of the image.
9. An object is placed 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image.
10. A 4.5 cm needle is placed 12 cm from a convex mirror of focal length 15cm. Find the location of the image and the magnification.
11. An arrow 2.5 cm high is placed 25 cm from a diverging mirror of focal length 20 cm. Find the nature, position, and size of the image.
12. A concave mirror produces three times magnified real image of an object placed 10 cm in front of it. Where is the image located?
13. The image formed by a convex mirror of focal length 20 cm is a quarter of the object. What is the object distance from the mirror?
14. An object 2 cm high is placed 16 cm from a concave mirror, which produces a 3 cm high inverted image. Find the focal length and image position.
15. An erect image three times the size of the object is formed by a concave mirror of radius of curvature 36 cm. Find the object position.

Conceptual / short answer questions

1. State the two laws of reflection of light. Do they hold for spherical mirrors?
2. Differentiate between a concave and a convex spherical mirror in terms of their reflecting surfaces and uses.
3. Define the following for a spherical mirror:
   Pole, Centre of curvature, Radius of curvature, Principal axis, Principal focus.
4. Why is a convex mirror preferred as a rearview mirror in vehicles?
5. List the sign conventions used for reflection by spherical mirrors (New Cartesian system).
6. Draw a ray diagram to show the formation of image by a concave mirror when the object is placed:
   (i) Beyond C (ii) At C (iii) Between C and F (iv) At F (v) Between F and P.

One word questions

1. What is the name of the centre of the reflecting surface of a spherical mirror?
   (Answer: Pole)
2. Which mirror always forms a virtual, erect, and diminished image?
   (Answer:Convex mirror)
3. What is the straight line passing through the pole and the centre of curvature called?
   (Answer: Principal axis)
4. What is the distance between the pole and the principal focus of a mirror called?
   (Answer: Focal length)

5. Which mirror can form a real and inverted image of an object?
(Answer: Concave mirror)

One sentence questions

1. State the second law of reflection in one sentence.
(Expected answer: The angle of reflection is equal to the angle of incidence.)
2. Write one use of a concave mirror in everyday life.
(Example: Used in shaving mirrors or headlights of vehicles.)
3. Why is a convex mirror used as a rearview mirror in vehicles in one sentence?
(Example: It gives a wider field of view and always forms a diminished, erect image.)
4. What is the sign of the focal length of a concave mirror according to the New Cartesian sign convention?
(Answer - Negative)
5. In one sentence, tell the nature of the image formed by a concave mirror when the object is placed between the pole and the focus.
(Example: The image is virtual, erect, and magnified.)

CHEMISTRY

Section A: Write the symbolic equation and balance it -

1. Magnesium burns in oxygen to form magnesium oxide.
2. Zinc reacts with dilute hydrochloric acid to form zinc chloride and hydrogen gas.
3. Iron reacts with steam to form iron oxide and hydrogen gas.
4. Calcium reacts with water to form calcium hydroxide and hydrogen gas.
5. Sodium reacts with chlorine to form sodium chloride.
6. Aluminium reacts with oxygen to form aluminium oxide.
7. Copper oxide reacts with hydrogen to form copper and water.
8. Methane burns in oxygen to form carbon dioxide and water.
9. Potassium chlorate decomposes on heating to form potassium chloride and oxygen.
10. Lead nitrate decomposes on heating to form lead oxide, nitrogen dioxide and oxygen.
11. Silver nitrate reacts with sodium chloride to form silver chloride and sodium nitrate.
12. Barium chloride reacts with sodium sulphate to form barium sulphate and sodium chloride.
13. Iron reacts with copper sulphate solution to form iron sulphate and copper.
14. Zinc reacts with copper sulphate solution to form zinc sulphate and copper.
15. Hydrochloric acid reacts with sodium hydroxide to form sodium chloride and water.
16. Sulphur burns in oxygen to form sulphur dioxide.
17. Phosphorus burns in oxygen to form phosphorus pentoxide.
18. Calcium carbonate decomposes on heating to form calcium oxide and carbon dioxide.
19. Sodium carbonate reacts with hydrochloric acid to form sodium chloride, water and carbon dioxide.
20. Aluminium reacts with hydrochloric acid to form aluminium chloride and hydrogen gas.

Section B: Balance the following symbolic equations -

1. $H_2 + O_2 \rightarrow H_2O$
2. $Mg + O_2 \rightarrow MgO$
3. $Fe + O_2 \rightarrow Fe_2O_3$
4. $Zn + HCl \rightarrow ZnCl_2 + H_2$
5. $Al + O_2 \rightarrow Al_2O_3$
6. $Na + H_2O \rightarrow NaOH + H_2$
7. $CaCO_3 \rightarrow CaO + CO_2$
8. $KClO_3 \rightarrow KCl + O_2$
9. $Pb(NO_3)_2 \rightarrow PbO + NO_2 + O_2$
10. $CH_4 + O_2 \rightarrow CO_2 + H_2O$
11. $C_2H_6 + O_2 \rightarrow CO_2 + H_2O$
12. $Fe + H_2O \rightarrow Fe_3O_4 + H_2$
13. $CuO + H_2 \rightarrow Cu + H_2O$
14. $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$
15. $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + NaCl$
16. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$
17. $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
18. $HCl + NaOH \rightarrow NaCl + H_2O$
19. $Na_2CO_3 + HCl \rightarrow NaCl + H_2O + CO_2$
20. $Al + HCl \rightarrow AlCl_3 + H_2$

HISTORY

NATIONALISM IN INDIA

PLEASE SOLVE THE QUESTIONS WITH REFERENCE OF YOUR NCERT TEXT BOOK

1. Explain any three major problems posed by the First World War in India.
2. Why did Gandhiji decide to launch a nationwide Satyagraha against the proposed Rowlatt Act of
3. 1919? How was it organized?
4. Why did Gandhiji decide to launch a nationwide Satyagraha against the proposed Bowlatt Act
5. 1919 Explain any three reasons.
6. Write down three suppressive measures taken by the British administration to clamp down on nationalist during Rawlatt Satyagraha.
7. Explain the impact of Tallian walla Bagh incident on the people.
8. How did Gandhiji saw a way to unite the Hindus and Muslims through the Khilafat Committee?
9. Specify the three fold stages of Non Co-operation Movement proposed by GandhiüiZ
10. How did peasants of Awadh use different methods to achieve their goal? Explain.

11. Who was Alluri Sitaram Raja? Explain his role in inspiring the rebels with Gandhit's ideas.
12. The plantation workers in Assam had their own understanding of Mahatma Gandhi and thi notion of Swaraj. Support the statement with arguments.
13. Why did Gandhiji decide to withdraw the Non-Cooperation Movement in February 1922?
14. Explain any three reasons.
15. Why did the Non Co-operation failed?

ECONOMICS- DEVELOPMENT

1. What is the main criterion used by the World Bank in classifying different countries? What are the limitations of this criterion, if any?

2. In what respects is the criterion used by the UNDP for measuring development different from the one used by the World Bank?

3. Kerala, with lower per capita income, has a better human development ranking than Haryana. Hence, per capita income is not a useful criterion at all and should not be used to compare states. Do you agree? Discuss.

4. Why is the issue of sustainability important for development?

5. "The Earth has enough resources to meet the need of all but not enough to satisfy the greed of even one person." How is this statement relevant to the discussion of development? Discuss.

6. Mention various factors that determine the development of a country.

7. Why are public facilities needed for the development of a country?

8. Prove that development for some may be harmful to others.

OR

With the help of examples, show two groups who may have different notions of development.

OR

"What may be development for one may not be development for the other." Explain by giving examples.

9. What is the significance of Human Development Index?

10. Why are the countries of the Middle East not called developed countries in spite of higher per capita income?

11. Explain how Body Mass Index (BMI) is calculated and what it indicates about a person's health. Why is it important to consider BMI when discussing development?

CLASS X
PROJECT WORK

(Consumer Rights / Social Issues / Sustainable Development)

OBJECTIVE OF THE PROJECT

- Develop awareness about consumer rights, social issues, and sustainable development
- Help students understand real-life problems and their solutions
- Enhance research, critical thinking, and presentation skills
- Promote creative expression and digital learning

PREPARE A PROJECT ON

ANY ONE

OF THE FOLLOWING TOPICS:

CONSUMER RIGHTS
- Influencer Marketing and Consumer Trust

OR

SOCIAL ISSUES
- Impact of Social Media on Teenagers

OR

SUSTAINABLE DEVELOPMENT
- Climate Change and Its Impact

Students must choose any **ONE** topic from the above list.

★ Use real-life examples or current news.

PRESENTATION MODE (CHOOSE ANY ONE)

OPTION 1: OFFLINE (FILE ONLY)

- Well-prepared handwritten project file
- Creative use of charts, diagrams, and pictures

OR

OPTION 2: ONLINE / DIGITAL

CHOOSE ANY ONE:

PowerPoint Presentation (8–12 slides)

OR

Infographic/ Poster (Canva)

IMPORTANT INSTRUCTIONS

- ✓ Project must be original (no copy-paste)
- ✓ Choose either offline OR online mode **(not both)**
- ✓ Use simple and clear language
- ✓ Keep project neat and well-organized

ASSESSMENT CRITERIA (TOTAL: 5 MARKS)

Criteria	Marks
Content & Understanding	2
Creativity & Presentation	2
Organization & Neatness	1

SUBMISSION DETAILS

- Submit written file in class
- Submit digital work (if chosen) via email

Do Your Best!