O.P. JINDAL SCHOOL,

RAIGARH (C.G.)

VACATION

HOME WORK

CLASS - IX

SUBJECT - HINDI

प्रश्न 1 दिए गए संकेत बिंदुओं के आधार पर निम्नलिखित में से किन्हीं दो विषयों पर 120 शब्दों में अनुच्छेद लिखिए।

(क) ग्लोबल वार्मिंग

संकेत बिंदु

*ग्लोबल वार्मिंग क्या है तथा कैसे होती है?

*दुष्परिणाम

*बचाव तथा उपसंहार

(ख) आधुनिक जीवन में मोबाइल

संकेत बिंदु

*वर्तमान समय में मोबाइल की महत्ता

*मोबाइल फोन द्वारा प्राप्त होने वाली सुविधाएँ

*मोबाइल फोन से होने वाले नुकसान

(ग) ई-कचरा

संकेत बिंदु

*ई-कचरा से तात्पर्य

*निपटान के उपाय

*चिंता का कारण

प्रश्न २ (क) आप रंजना/राजन हैं। संयमित और स्वस्थ जीवन-शैली का महत्त्व बताते हुए छोटे भाई को लगभग 100 शब्दों में पत्र लिखिए।

(ख) आपसे खिड़की का शीशा टूट गया है,अध्यापक ने आप पर २०० रुपये का जुर्माना कार दिया है,जुर्माना माफ़ करने के लिए विद्यालय के प्राचार्य को पत्र लिखिए|

प्रश्न 3 (क) "परिश्रम ही सफलता की कुंजी है" उक्ति को आधार बनाकर लघु कथा लिखिए। (5)

(ख)जिलाधिकारी को ध्वनि प्रदूषण की समस्या से अवगत कराते हुए ई-मेल लिखिए।

प्रश्न 4 (क) "मंगलयान अभियान" विषय पर समाज के दो सामान्य व्यक्तियों के बीच का संवाद लिखिए।

(ख) आपके विद्यालय में 'पुस्तक प्रदर्शनी' आयोजित होने वाली है|इस संबंध में एक सूचना तैयार कीजिए।

उपरोक्त गृहकार्य निर्धारित समय पर अपनी हिंदी की उत्तर पुस्तिका में पूर्ण करें |

SUBJECT - ENGLISH

A. Read the passage and answer the following questions:

The Hand-Wrought Majesty of India's Charter

The Constitution of India stands not merely as a cold legal code, but as a magnum opus of calligraphic elegance and patriotic devotion. While the Constituent Assembly deliberated upon the destiny of a nascent republic, the monumental task of transcribing the supreme law fell upon the masterful hand of Shri Prem Behari Narain Raizada.

Engaging in a labor of profound endurance, Raizada employed a flowing Italic style to grace the pages of this historic document. For six arduous months, he tirelessly wielded 432 'No. 303' nibs, meticulously inscribing 395 articles and eight schedules across 251 pages of fine parchment. It was a feat of singular dedication, where every rhythmic stroke of the pen echoed the soaring aspirations of millions seeking self-governance.

When the venerable Prime Minister Nehru queried regarding his remuneration for such an exhaustive endeavor, the noble Raizada declined all pecuniary reward. His soul-stirring request was but a humble one: to be permitted to sign his name at the foot of every page, and that of his grandfather, Shri Ram Prasadji, upon the final leaf. This monumental manuscript was further adorned by the exquisite gold-leaf illuminations of Nandalal Bose and Beohar Rammanohar Sinha, blending legal gravity with the artistic splendor of Shantiniketan.

Among its salient features, this grand charter is distinguished as the world's lengthiest written constitution, a sophisticated synthesis of rigidity and flexibility, and a champion of Fundamental Rights. It establishes a sovereign, secular, and democratic republic, ensuring the dignity of the individual. Truly, this hand-wrought masterpiece remains a testament to human patience and the enduring spirit of Indian democracy.

Based on the passage provided, here are the comprehension questions designed for a CBSE Class IX level. These questions test factual recall, vocabulary, and inferential understanding.

Reading Comprehension: The Hand-Wrought Majesty

I. Multiple Choice Questions (MCQs)

1. What specific writing style did Shri Prem Behari Narain Raizada employ to transcribe the Constitution?

a) Gothic Script

b) Flowing Italic Style

c) Copperplate Calligraphy

d) Bold Sans Serif

2. Which of the following best describes the remuneration Raizada received for his monumental work?

a) A substantial sum of gold coins.

b) A government pension and a title.

c) No monetary payment, only the right to sign the document.

d) An official appointment as the Chief Artist of India.

3. The number '303' mentioned in the text refers to:

a) The total number of pages in the Constitution.

b) The specific type of nib used for writing.

c) The number of articles in the original draft.

d) The year the calligraphy was completed.

II. Analogy and Vocabulary

4. Complete the following analogy based on the vocabulary used in the text:

Arduous : Laborious :: _____ : Developing

III. Short Answer Questions-

5. How much time did it take to complete the handwritten manuscript, and what were its final physical dimensions (pages and articles)?

6. "The Constitution is a synthesis of rigidity and flexibility." Based on the passage, mention two other salient features of this grand charter.

7. Who were the artists responsible for the illuminations in the document, and which institution were they associated with?

8. What can we infer about Prem Behari Narain Raizada's values from the request he made to Prime Minister Nehru regarding his remuneration?

B. Report it into indirect speech:

Samuel: Which way does this road lead to?
Stranger: To the port. I am going in that direction.
Samuel: May I tag along?
Stranger: Did you take the blessings of the sage?
Samuel: No.

Samuel asked the stranger _____.
The stranger replied that the road_____.
Samuel _____. The stranger asked him _____. Samuel replied in _____.

C. Answer the following in about 30 words:

1. Why did the Bishop not listen to Persome when the latter insisted on staying during their encounter with the convict?
2. Describe the final stage in man's life.
3. Comment upon the language used by Major Percy in order to convince someone.
4. What does Wordsworth guess about the 'plaintive numbers'?

Answer in about 120 words:

5. Imagine Pescud returning with the petunias and having a friendly conversation with the Colonel. Write it in an amusing manner.

SUBJECT - SANSKRIT

1. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत-

अन्यस्य जनस्य हिताय यत् कार्यं चिन्तनं वा क्रियते तदेव परोपकारः भवति। मनुष्यस्य मध्ये प्रवृत्तिद्वयं दृश्यते-एका स्वार्थस्य अपरा च परोपकारस्य। केचन जनाः तादृशाः 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-नाम्ना प्रसिद्धा अस्ति। अस्या: प्राचीनं नाम इन्द्रप्रस्थम् आसीत्। 'नवादिल्ली इति स्थाने केन्द्रीयप्रशासनस्य कार्यालया: सन्ति। तत्र बहुभूमि कानि भवनानि विलसन्ति। भारतस्य राष्ट्रपति:, उपराष्ट्रपति:, प्रधानमंत्री, अन्ये केन्द्रियमन्त्रिण: सांसदा: च दिल्ली-नगरे एव निवसन्ति। दिल्ली सर्वस्य आकर्षणकेन्द्रम् अस्ति। अत्र दूरदर्शनस्य अपि केन्द्रम् अस्ति। अधुना संसारे या प्रगति: दृश्यते तस्या: दिग्दर्शनं दिल्लीनगरे भवति। दिल्ली शिक्षाया: अपि प्रमुखं केन्द्रं वर्तते। अत्र दिल्लीविश्वविद्यालय:, जवाहरलालनेहरूविश्वविद्यालय:, लालबहादुरशास्त्रिविद्यापीठं च सन्ति। दिल्लीनगर्यां दर्शनीयस्थानेषु सर्वोच्चन्यायालय:, मेहरौलीस्तम्भ:, राष्ट्रपतिभवनं, संसद्भवनम्, अद्भुतालय:, जन्तुगृहं वायुयान-आस्थानं, अन्तर्राज्यीय-बस-आस्थानम् रक्तदुर्गम् च सन्ति। दिल्ली राजधानीक्षेत्रस्य विधानसभाया: 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. अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानाम् उत्तराणि संस्कृतेन लिखत -

एकदा सर्वे पक्षिणः मिलित्वा उलूकं स्वाधिपतिं विधातुं विचारितवन्तः। तस्य अभिषेकवेलापि तैः निश्चिता । ततो यदा अभिषेकोत्सवः प्रारब्धः तदैव कश्चित् वायसः तत्रागच्छत् । उलूकस्याभिषेक-समाचारं श्रुत्वा सोऽवदत् -"भोः! किं विचार्य भवद्भिः एषः दिवान्धः उलूकः राजपदे प्रतिष्ठापयितुं निश्चितः ? यस्य देशस्य राजा एवम् अन्धो भविष्यति तस्य प्रजा अपि तथैव भविष्यति । किं न श्रुतं भवद्भिः - यथा राजा तथा प्रजा इति ।" ततः सर्वेऽपि तस्य परामर्शं मत्वा यत्र तत्र प्रस्थिताः ।

कथैषा पुरातनी परम् अस्याः तात्पर्यं तु अद्यापि अक्षरशः सत्यम्। लोकतान्त्रिकदेशेषु यथा राष्ट्रप्रमुखः सर्वकारो वा तथा तस्य देशस्य स्थितिः भवति। अतः राजपदे योग्यजनः एव प्रतिष्ठापयितव्यः । सम्प्रति यथा नेतारः तथा जनाः।

अ. एकपदेन उत्तरत - (केवलं प्रश्नद्वयम्) **(1x2=2)**

(i) पक्षिणः कं स्वाधिपतिं विधातुम् उद्यताः?

ii) यदा अभिषेकोत्सवः प्रारब्धः तदा कः तत्रागच्छत्?

(iii) राजपदे कीदृशः जनः प्रतिष्ठापयितव्यः?

आ. पूर्णवाक्येन लिखत - (केवलं प्रश्नद्वयम्)

(2x2=4)

(i) वायसः तत्र कदा आगच्छत्?

(ii) वायसः उलूकस्य राजपदे प्रतिष्ठापनविषये किम् अवदत्?

(iii) लोकतान्त्रिकदेशेषु देशस्य कीदृशी स्थितिः भवतिः?

इ. अस्य अनुच्छेदस्य कृते उपयुक्तं शीर्षकं संस्कृतेन लिखत । **(1)**

ई. यथानिर्देशम् उत्तरत - (केवलं प्रश्नत्रयम्) **(1x3=3)**

(i) "काकः" इत्यस्य किं समानार्थकपदं गद्यांशे प्रयुक्तम्?

(ii) "आगच्छत्" इति क्रियायाः कर्तृपदं गद्यांशात् चित्वा लिखत ।

(iii) "नवीना" इत्यस्य विलोमपदं गद्यांशात् चित्वा लिखत ।

(iv) "दिवान्धः उलूकः" इत्यनयोः पदयोः विशेषणपदं किम्?

5. **अधोलिखितं गद्यांशं पठित्वा प्रदत्तप्रश्नानां उत्तराणि संस्कृतेन लिखत-**

अस्माकं देशः प्राचीनकालादेव प्राकृतिक-पर्यावरणस्य पोषकः वैदिककाले यद्यपि पर्यावरणस्य प्रदूषणस्य समस्या नासीत् तथापि वेदेषु स्थाने-स्थाने ऋषीणां पर्यावरणविषयकं चिन्तनं दृश्यते । अद्य पर्यावरण-प्रदूषणं संसारस्य भीषणतमा समस्या वर्तते,परं जनाः अस्याः गाम्भीर्यं न अनुभवन्ति।पर्यावरणं रक्षणीयं वृक्षाः रोपणीयाःरक्षणीयाःच इति शृण्वन्तः उद्घोषयन्तःअपि वयम् प्रतिदिनं तेषां कर्तनं पश्यामः। "प्लास्टिक"इति रसायनेन निर्मितवस्तूनि पर्यावरणाय हानिकराणि इति जानन्तः अपि जनाः एतेषां प्रयोगं बाहुल्येन कुर्वन्ति । पर्यावरण- प्रदूषकं धूमं क्षिपतां वाहनानाम् औद्योगिक-यन्त्रागाराणां संख्या निरन्तरं वर्धमाना अस्ति ।यद्यपि विकासाय नवीनाः आविष्काराः,अपेक्षिताः परं सञ्चाराय विस्तृताःसुरक्षिताः मार्गाः जनानां कृते अपि आवश्यकाः एव ।यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि पृथिव्यां जीवनमेव असंभवं भविष्यति तदा भौतिकनिकासेन किम् ! अतः सर्वकारः जनसहयोगेन सर्वथा पर्यावरणरक्षणाय यत्नशीलःभवेदिति ।

अ. एकपदेन उत्तरत- (केवलं प्रश्नद्वयम्) (1×2=2)

(i) के रोपणीयाःरक्षणीयाः च ?

(ii) कदा पर्यावरणस्य प्रदूषणस्य समस्या नासीत् ?

(iii) अस्माकं देशः कस्य पोषकः?

ब. पूर्णवाक्येन उत्तरत-(केवलं प्रश्नद्वयम्) (2×2=4)

(i) किं जानन्तः जनाः प्लास्टिक-निर्मितवस्तूनां प्रयोगं बाहुल्येन कुर्वन्ति?

(ii)यदि पर्यावरणं प्राणिजीवनाय अनुकूलं न भविष्यति तर्हि किं भविष्यति?

(iii) केषां संख्या निरन्तरं वर्धमाना अस्ति?

स.अस्य अनुच्छेदस्य कृते उपयुक्तं शीर्षकं संस्कृतेन लिखत।(1×1=1)

द. यथानिर्देशम् उत्तरत - (केवलं प्रश्नत्रयम्) (1×3=3)

(i)'जनाः अस्याः गाम्भीर्यं न अनुभवन्ति'अत्र किं क्रियापदम् ?

(क) जनाः (ख) अस्याः (ग)अनुभवन्ति (घ) न

(ii) 'नवीनाः' इति विशेषणपदस्य विशेष्यपदं किम्?

(क) प्राचीना (ख)मार्गाः (ग) आविष्काराः (घ) वस्तूना

(iii) 'वयम् प्रतिदिनं तेषां कर्तनं पश्यामः।'अस्मिन् वाक्ये 'पश्यामः'क्रियायाः कर्तृपदं किं प्रयुक्तम् ?

(क) तेषां (ख) वयम् (ग) पश्यामः (घ) कर्तनं

(iv) 'शोषकः'इति पदस्य किं विलोमपदं गद्यांशे प्रयुक्तम्?

(क) विषयः (ख) पोषकः (ग) सरलः (घ) अस्याः

6. 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,

7. भवान् रायगढ़नगरस्थ उमेशः । भवतः मित्रं राजीवः नागपुर-नगरे 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 योग्यता-सूचौ (vii)..... । त्वया सप्त-शतानि अंकाः प्राप्ताः । त्वं निश्चित-रूपेण (viii)..... प्राप्स्यसि । त्वया परिवारस्य विद्यालयस्य च नाम उज्ज्वलीकृतम् ।

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

तव अभिन्नहृदयं मित्रम्

(x).....

8. 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|

9.भवती प्रभा अस्ति । स्वमातरं प्रति स्वस्वास्थ्य विषये लिखितम् इदं पत्रं मञ्जूषायाः सहायतया पुनः सम्पूर्णं लिखतु । ½x10=5

विद्यालयपरिसरः

(i) .....

समादरणीयाः (ii).....

सादरं प्रणामाः ।

अत्र कुशलम् तत्रास्तु ।सम्प्रति मम (iii).....परीक्षा सञ्चरति ।अत्र छात्रावासे पठनस्य वातावरणं तु शोभनं वर्तते। अत्र अध्यापकाःअपि च अतीव कर्मठाःसन्ति । अतः पठनस्य कार्यम् (iv) .....एव भवति, परन्तु अध्ययनकारणात् शयनस्य भोजनस्य च (v).....एव न प्राप्यते । अतः अद्यत्वे मम (vi) .....सुष्ठु नास्ति । अहं (vii).....पीडिता अस्मि । परं काचिद् अपि (viii).....नैव करणीया। आशासे अहं शीघ्रमेव पूर्णतया स्वस्था भविष्यामि ।परीक्षायाःअनन्तरं (ix).....आगमिष्यामि । तदा वयम् मिलित्वा भ्रमणाय वाराणसीनगरम् गमिष्यामः । पित्रे(x).....।

भवत्या : पुत्री

प्रभा

मञ्जूषा-

वार्षिकी,शिमलातः,ज्वरेण,मातृचरणाः,गृहम्,स्वास्थ्यम्,समुचितं,नमः, समयः, चिन्ता ।

10. अधोलिखितं संवादं मञ्जूषायां प्रदत्तपदानां सहायतया पूरयत- 1x5=5

सत्सङ्गते (**i) .....**को न जानसि **?** संसारे द्विधा जनाः सन्ति**,** सज्जनाः दुर्जनाश्च । दुर्जनस्य संगतिम् कोऽपि कर्तुम् न इच्छति। अपरत्र सत्सगं विना जीवनम् एव (**ii).....**भवति। वस्तुतः (**iii).....**जनानां पोषिका कुसंगतिश्च नाशिका। अतः सत्संगतिः एव श्रेयसी। (**iv) .....**तु स्वगुणैः एव सन्तः कथयन्ते**,** अतएव जनाः सज्जनानां सङ्गतिम् इच्छन्ति । सद्गुणेनैव जनः (**v).....**वाचा कर्मणा स्वस्थो भवति।

* मञ्जूषाः -- मनसा**,** सज्जनाः**,** सत्सङ्गतिः**,** दुर्जीवनं**,** महिमानम् ।

11. रिक्तस्थानानि पूरयित्वा अधोलिखितसंवादं पुनः लिखत। (5×1 = 5)

रेखा - अरे कृष्णः ! त्वं किं करोषि ?

कृष्णः - अहम् (**i)** .....

रेखा- इदं त्वया उचितम् न कृतम्। अवकरम् यत्र-तत्र न क्षिपेत् केवलं पात्रे हि क्षिपेत्।

कृष्णः- कथम् अत्र तव गृहम् अस्ति किम् **?**

रेखा- नहि**,** मम गृहं नास्ति**,** परन्तु (**ii).....**

कृष्णः- गच्छ**,** स्वकार्यम् कुरु। अलं विवादेन।

रेखा- प्रथमम् अवकरं (**iii).....**

कृष्णः- इदम् अहं न करिष्यामि।

रेखा- मित्र ! अत्र वयं भ्रमामः क्रीडामः च। अवकरेण विविधाः रोगाः (**iv) .....**। मार्गाणाम् स्वच्छता तु सर्वेषाम् स्वास्थाय आवश्यकम् अस्ति। वयम् छात्राः स्मः। वयम् एव स्वच्छतायाः संदेशम् दातुम् शक्नुमः ।

कृष्णः - सत्यं कथयसि। शीघ्रम् स्वच्छम् करोमि । इदम् तु (**v)**.....।

* मञ्जूषाः - उत्पन्नाः भवन्ति ।

अवकरं क्षिपामि।

पात्रे क्षिपतु।

पर्यावरणाय अपि आवश्यकम्।

स्वच्छता तु सर्वेषाम् कृते आवश्यकी भवति।

12. अधोलिखितं संवादं मञ्जूषायां प्रदत्तपदानां सहायतया पूरयत-(1x5=5)

रामः त्वम् कुत्र (i) .....?

रत्नः अहम् (ii)..... गच्छामि ।

रामः तव विद्यालये कति अध्यापकाः सन्ति ?

रत्नः मम विद्यालये (iii)..... अध्यापकाः सन्ति ।

रामः तव (iv).....अध्यापिका न अस्ति ?

रत्नः मम विद्यालये एका अध्यापिका अस्ति ।

रामः तव अध्यापकानां (v)..... कीदृशः अस्ति ?

रत्नः तेषां व्यवहारः स्नेहशीलः अस्ति ।

मञ्जूषा - व्यवहारः, विद्यालयम्, पञ्चदश,विद्यालये,गच्छसि

13. अधोलिखितं कथां मञ्जूषायाः सहायतया पूरयित्वा पुनः लिखत-

पुरा (i).....त्रयः एव विश्वविद्यालयाः आसन्-तक्षशिला, विक्रमशिला नालन्दा च। तेषु विश्वविद्यालयेषु नालन्दा विश्वविद्यालये(ii).....केवलंशिक्षादीयतेस्म।एवमेवतस्मिन्नेव(iii).....कृषिःआयुर्वेदः,पशुविज्ञानं, कला शिल्पानाञ्च शिक्षा दीयते स्म । अतःसप्तवर्षीयः सन् (iv)..... .....पञ्चविद्याः अधीतवान्।तासु शब्दविद्याशिल्पस्थानम्-आयुर्वेदः–हेतुविद्या-आध्यात्मि- की च विद्याः आसन् । एताः विद्याः पठित्वा छात्राः (v) ....."विवेकिनः अभवन् जीवनदर्शनं च जानन्ति स्म। । तदैव अस्माकं देशः भारतम् 'स्वर्णखगः' कथ्यते स्म।

मञ्जूषा- छात्रः, बौद्धदर्शनस्य, सत्यासत्य, विश्वविद्यालये ,भारते

SUBJECT - MATHEMATICS

Q.1. Find three rational numbers between $\frac{1}{5}$ and $\frac{1}{4}$.

Q.2. Find five rational numbers between $\frac{2}{5}$ and $\frac{3}{4}$.

Q.3. Without actual division, find which of the following rational numbers are terminating decimals:

(a) $\frac{5}{12}$ (b) $\frac{21}{80}$ (iii) $\frac{16}{35}$ (d) $\frac{17}{125}$

Q.4. Express the following rational numbers as decimals:

(a) $\frac{5}{8}$ (b) $\frac{7}{25}$ (iii) $\frac{9}{16}$ (d) $\frac{327}{507}$

Q.5. Express the following in the form $\frac{p}{q}$:

(a) $0.\bar{4}$ (b) $0.\overline{37}$ (c) $0.\overline{631}$ (d) $0.5\bar{3}$ (e) $0.54\bar{7}$ (f) $15.8\overline{31}$

Q.6. Examine, whether the following numbers are rational or irrational:

(a) 2.1313313331 ... (b) 4.2576 (c) 5.040040004 ... (d) 2.346464646 ...

(e) $(5-\sqrt{2})(5+\sqrt{2})$ (f) $(\sqrt{3}+\sqrt{2})^2$ (g) $\sqrt{6}-2$ (h) $\sqrt{\frac{9}{27}}$

(i) $-\sqrt{81}$ (j) $\sqrt{169}$ (k) $\sqrt{5}$ (l) $\sqrt{9}$ (m) $\sqrt{45}$

Q.7. Find one irrational number between 0.2101 and $0.\bar{2}$.

Q.8. Find two rational numbers between 2.232332333233332 ... and 2.252552555255552 ... .

Q.9. Find a rational number and an irrational number between 0.101001000100001 ... and 0.1001000100001 ... .

Q.10. Represent $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{6}$ and $\sqrt{7}$ on the number line.

Q. 11. Represent $\sqrt{3.5}$, $\sqrt{4.3}$ and $\sqrt{8.4}$ on the number line.

Q.12. Simplify: (i) $(5+\sqrt{3})(5-\sqrt{3})$ (ii) $(\sqrt{5}-\sqrt{2})(\sqrt{2}-\sqrt{3})$ (iii) $(4-\sqrt{5})^2$

Q.13. If $x = 4-\sqrt{15}$, find the value of $x+\frac{1}{x}$.

Q.14. If $x = 3+\sqrt{8}$, find the value of $x^2+\frac{1}{x^2}$.

Q.15. If $x = \frac{\sqrt{3}+1}{2}$, find the value of $4x^3+2x^2-8x+7$.

Q.16. Prove that $\frac{1}{3-\sqrt{8}}-\frac{1}{\sqrt{8}-\sqrt{7}}+\frac{1}{\sqrt{7}-\sqrt{6}}-\frac{1}{\sqrt{6}-\sqrt{5}}+\frac{1}{\sqrt{5}-2}=5$.

Q.12. Simplify the following:

(i) $(5)^{\frac{3}{4}}\times(5)^{\frac{1}{4}}$ (ii) $\frac{(3)^{\frac{1}{3}}}{(3)^{\frac{1}{6}}}$ (iii) $(3)^{\frac{2}{3}}\times(5)^{\frac{2}{3}}$ (iv) $(49)^{\frac{1}{2}}$ (v) $(27)^{\frac{2}{3}}$ (vi) $(64)^{-\frac{1}{3}}$

Q.13. If $x = 3+2\sqrt{2}$, find the value of $\sqrt{x}-\frac{1}{\sqrt{x}}$.

Q.14. Find x, where $3+2^x = (64)^{\frac{1}{2}}+(27)^3$.

Q.15. If $(a^{-1})^{x-1} = (b$

$x-5$

) , find x. –

b a

21. Bisectors of angles A, B and C of a triangle ABC intersect its circumcircle at D, E and F respectively. Prove that the angles of the triangle DEF are 90° – (½)A, 90° – (½)B and 90° – (½)C.

22. In any triangle ABC, if the angle bisector of ∠A and perpendicular bisector of BC intersect, prove that they intersect on the circumcircle of the triangle ABC.

23. Prove that the circle drawn with any side of a rhombus as diameter passes through the point of intersection of its diagonals.

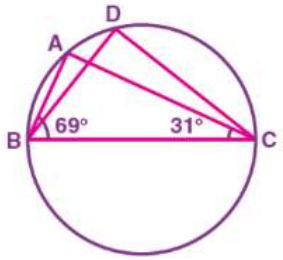
24. Two chords AB and CD of lengths 5 cm and 11 cm respectively of a circle are parallel to each other and are on opposite sides of its centre. If the distance between AB and CD is 6, find the radius of the circle.

25. If circles are drawn taking two sides of a triangle as diameters, prove that the point of intersection of these circles lies on the third side.

26. If the non-parallel sides of a trapezium are equal, prove that it is cyclic.

27. ABCD is a cyclic quadrilateral whose diagonals intersect at a point E. If ∠DBC = 70°, ∠BAC is 30°, find ∠BCD. Further, if AB = BC, find ∠ECD.

28. In Figure, ∠ABC = 69°, ∠ ACB = 31°, find ∠BDC.



29. A circular park of radius 20m is situated in a colony. Three boys Ankur, Syed and David are sitting at equal distance on its boundary each having a toy telephone in his hands to talk each other. Find the length of the string of each phone.

30. If two equal chords of a circle intersect within the circle, prove that the line joining the point of intersection to the centre makes equal angles with the chords.

31. The height of a cone is 16 cm and its base radius is 12 cm. Find the curved surface area and the total surface area of the cone. (Take π = 3.14).

32. Find the total surface area of a cone, if its slant height is 21 m and diameter of its base is 24 m.

33. The slant height and base diameter of a conical tomb are 25 m and 14 m respectively. Find the cost of white-washing its curved surface at the rate of Rs.210 per 100 sq.m.

34. The hollow sphere, in which the circus motorcyclist performs his stunts, has a diameter of 7 m. Find the area available to the motorcyclist for riding.

35. The radius of a spherical balloon increases from 7 cm to 14 cm as air is being pumped into it. Find the ratio of surface areas of the balloon in the two cases.

36. Meera has a piece of canvas whose area is 551 m^2. She uses it to have a conical tent made, with a base radius of 7 m. Assuming that all the stitching margins and the wastage incurred while cutting, amounts to approximately 1 m^2, find the volume of the tent that can be made with it.

37. A capsule of medicine is in the shape of a sphere of diameter 3.5 mm. How much medicine (in mm^3) is needed to fill this capsule?

38. Calculate the amount of ice-cream that can be put into a cone with base radius 3.5 cm and height 12 cm.

39. A spherical ball is divided into two equal halves. Given that the curved surface area of each half is 56.57 cm, what will be the volume of the spherical ball?

40. A hemispherical bowl is made of steel, 0.25 cm thick. The inner radius of the bowl is 5 cm. Find the outer curved surface area of the bowl.

41. The angles of a quadrilateral are in the ratio 3 : 5 : 9 : 13. Find all the angles of the quadrilateral.

42. If the diagonals of a parallelogram are equal, then show that it is a rectangle.

43. Show that if the diagonals of a quadrilateral bisect each other at right angles, then it is a rhombus.

44. Show that the diagonals of a square are equal and bisect each other at right angles.

45. Show that if the diagonals of a quadrilateral are equal and bisect each other at right angles, then it is a square.

46. Give one example each of a binomial of degree 35, and of a monomial of degree 100.

47. Write the degree of the following polynomial:

$5x^3+4x^2+7x$

48. Find the value of the polynomial $(x)=5x-4x^2+3$.

(i) $x = 0$

(ii) $x = -1$

49. Find p(0), p(1) and p(2) for each of the following polynomials:

$p(y)=y^2-y+1$

50. Verify whether the following is the zero of the polynomial indicated against them.

$p(x)=3x+1, x = -1/3$

51. Simplify the following expressions:

(i) $(4 + \sqrt{7})(3 + \sqrt{2})$

(ii) $(3 + \sqrt{3})(5- \sqrt{2})$

52. Rationalise the denominators of each of the following (i – vii):

(i) $3/\sqrt{5}$ (ii) $3/(2\sqrt{5})$ (iii) $1/\sqrt{12}$ (iv) $\sqrt{2}/\sqrt{5}$

(v) $(\sqrt{3} + 1)/\sqrt{2}$ (vi) $(\sqrt{2} + \sqrt{5})/\sqrt{3}$ (vii) $3\sqrt{2}/\sqrt{5}$

53. Find the value to three places of decimals of each of the following. It is given that

$\sqrt{2} = 1.414$, $\sqrt{3} = 1.732$, $\sqrt{5} = 2.236$ and $\sqrt{10} = 3.162$

(i) $\frac{2}{\sqrt{3}}$ (ii) $\frac{3}{\sqrt{10}}$

(iii) $\frac{\sqrt{5}+1}{\sqrt{2}}$ (iv) $\frac{\sqrt{10}+\sqrt{15}}{\sqrt{2}}$

(v) $\frac{2+\sqrt{3}}{3}$ (vi) $\frac{\sqrt{2}-1}{\sqrt{5}}$

54. A traffic signal board, indicating 'SCHOOL AHEAD', is an equilateral triangle with side 'a'. Find the area of the signal board, using Heron's formula. If its perimeter is 180 cm, what will be the area of the signal board?

55. Find the area of a triangle whose sides are respectively 150 cm, 120 cm and 200 cm.

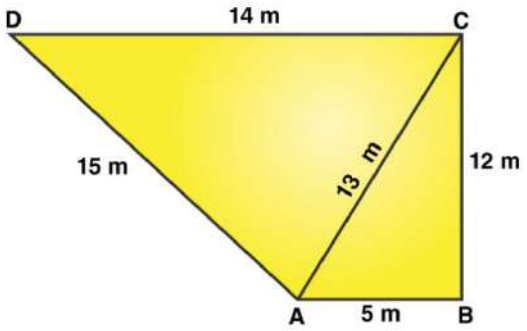
56. Find the area of a triangle whose sides are respectively 9 cm, 12 cm and 15 cm.

57. Find the area of a triangle two sides of which are 18 cm and 10 cm and the perimeter is 42 cm.

58. In a triangle ABC, AB = 15cm, BC = 13cm and AC = 14cm. Find the area of triangle ABC and hence its altitude on AC.

59. The perimeter of a triangular field is 540 m, and its sides are in the ratio 25:17:12. Find the area of the triangle.

60. The sides of a quadrilateral, taken in order as 5, 12, 14, and 15 meters, respectively, and the angle contained by the first two sides is a right angle. Find its area.



Q.61. Which of the following expressions are polynomials?

(i) $x^2 - 5x + 7$ (ii) $x^3 - 5x^2 + 9x + 11$ (iii) $5\sqrt{x} + 11$ (iv) $2^3\sqrt{x} + 11$

(v) $x + \frac{5}{\sqrt{x}} + 2$ (vi) $x^2 + 5 + x^4 + x^3$ (vii) -11 (viii) $\frac{5\pi}{6}$ (ix) $0x^2 + 0x$

Q.62. Write the degree of each of the following polynomials:

(i) $3x - \sqrt{11}$ (ii) $8x^2 - 5x + \sqrt{11}$ (iii) $x^3 + 7x^2 + 9x + 13$ (iv) $x^4 + 2x^2 + 9$ (v) 7 (vi) π

Q.63. Write: (i) Coefficient of x in $x^3 + 7x^2 + 9x + 11$ (ii) Coefficient of x^2 in $x^4 + 7x^3 + 9x^2 + 11$

(iii) Coefficient of x^3 in $x^4 + 5x^3 + 7x^2 + 9x + 11$ (iv) Coefficient of x^4 in $7x^2 + 9x + 11x^4 + 13$

Q.64. Verify that 0 and 4 are zeros of the polynomial $(x) = x^2 - 4x$.

Q.65. If $x = \frac{4}{3}$ is one of the zeros of the polynomial $(x) = 6x^3 - 11x^2 + kx - 20$, find the value of '$\boldsymbol{k}$'.

Q.66. Using Factor Theorem, prove that

(i) $(x - 1)$ is a factor of $2x^4 + 9x^3 + 6x^2 - 11x - 6$.

(ii) $(x+1)$ and $(2x-3)$ are factors of $2x^3-9x^2+x+12$.

Q.67. Factorize the following polynomials:

(i) $18x^2y-24yz$ **(ii)** $4(x+y)-6(x+y)^2$ **(iii)** $8(3a-2b)^2-10(3a-2b)$

(iv) $ax-5b+ab-5x$ **(v)** $x^3-x^2+ax+x-a-1$ **(vi)** $p^2+(q+1)+q^3$

(vii) $x^2-(a+b)+ab$ **(viii)** $x^2+\frac{1}{x^2}-2-3x+\frac{3}{x}$ **(ix)** x^4-625

(x) $(2a-3b)^2+2(2a-3b)(2a+3b)+(2a+3b)^2$ **(xi)** x^3+64 **(xii)** $1+27x^3$

(xiii) $(a-b+c)^2+(b-c+a)^2+2(a-b+c)(b-c+a)$ **(xiv)** x^5+x^2 **(xv)** $64a^3-343$

(xvi) $3a^7b-81a^4b^4$ **(xvii)** $x^3-\frac{1}{x^3}-2x+\frac{2}{x}$ **(xviii)** $x^3+3x^2y+3xy^2+y^3-8$

(xix) $x^3+8y^3+64z^3-24xyz$ **(xx)** $1+y^3+8z^3-6yz$ **(xxi)** $125-8x^3-27y^3-90xy$

Q.68. Expand: (i) $(3a+2)^3$ (ii) $(4x+5y)^3$ (iii) $(5x-3y)^3$

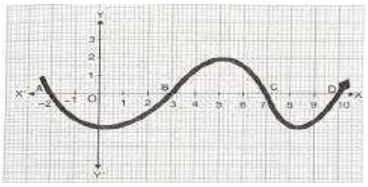
Q. 69. Evaluate: (i) $(106)^3$ (ii) $(999)^3$

Q. 70. If $\frac{x}{y}+\frac{y}{x}=-1$, where $x\neq 0$ and $y\neq 0$, then the value of (x^3-y^3) is

(i) 1 (ii) 0 (iii) -1 (iv) $\frac{1}{2}$.

Q. 74. Without actually calculating the cubes, find the value of $(20)^3+(30)^3-(50)^3$.

Q. 75. **Case Study Based Question 1:** A dead snake is hanging from the mesh in the form as is seen from the figure. Treating the snake as the graph of a polynomial meeting x-axis at A, B, C and D.



Based on the above information, answer the following questions:

(a) Show that 7 is one of the zeros of the polynomial represented by the snake?

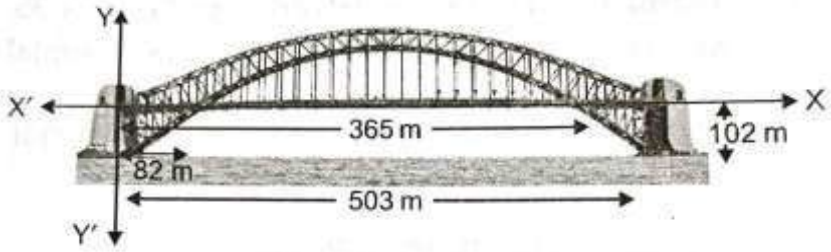
(b) Find the number of zeroes of the polynomial represented by the snake.

(c) Find the polynomial (in the factorized form), which is described by the dead snake.

OR

Write the degree of the polynomial represented by the dead snake.

Q. 76. **Case Study Based Question 2:** In Australian city of Sydney, "Sydney Harbour Bridge" is in the following shape:



Based on the above information, answer the following questions:

(a) How many zeros of the polynomial the Bridge representing are there?

(i) 1 (ii) 2 (iii) 3 (iv) 4.

(b) What are the zeros of the polynomial?

(i) $-82, 365$ (ii) $82, 507$ (iii) $82, 365$ (iv) $0, 365$

Q. 77. **Assertion (A):** The value of k if $(2x - 1)$ is a factor of the polynomial $(x) = 2x^4 - kx^3 + 4x^2 + 2x + 1$ is 25.

Reason (R): $p(-) = 0$ for the polynomial given in Assertion (A).

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

Q. 78. **Assertion (A):** $x^3 + 27 = (x + 3)(x^2 - 3x + 9)$

Reason (R): $x^3 + y^3 = (x + y)(x^2 - xy + y^2)$.

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

Q. 79. **Assertion (A):** $(3x - 2)$ is a factor of $(3x^3 + x^2 - 20x + 12)$.

Reason (R): $p(-) = 0$ for the polynomial given in Assertion (A).

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

Q. 80. **Assertion (A):** The binomial of degree 100 is $(x^{99} + 100)$.

Reason (R): The monomial of degree 25 is $(x^{25} + 35)$.

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

Q. 81. **Assertion (A):** 6 is a zero of the polynomial $(x) = x - 6$.

Reason (R): α is a zero of the polynomial (x) if $(x) = 0$.

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

Q.82. If an angle differs from its complement by $10°$, find the angle.

Q.83. If an angle is $14°$ more than its complementary angle. What is its measure?

Q.84. Find the angle which is double its complement.

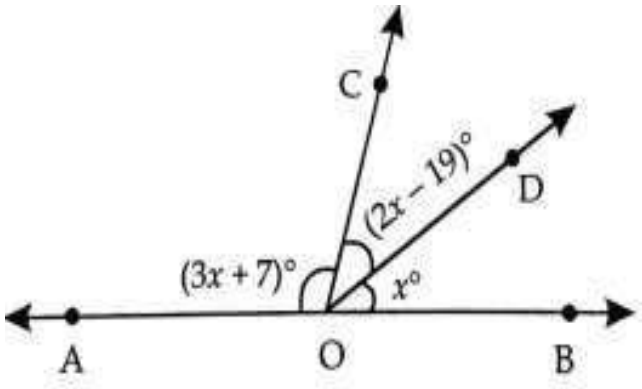
Q.85. Find the angle which is five times its supplement.

Q.86. Two supplementary angles are in the ratio 4: 5. Find the angles.

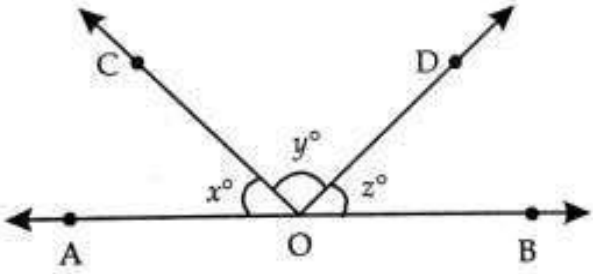
Q.87. Find the measure of an angle, if seven times its complement is $10°$ less than three times its supplement.

Q.88. If the angles $(2x - 10)°$ and $(x - 5)°$ are complementary angles, find x.

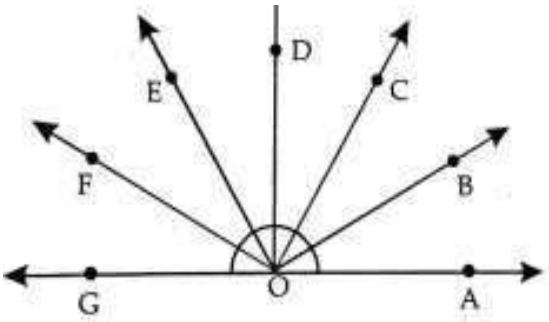
Q.89. In the figure, AOB is a straight line. Find the value of x. Hence, find $\angle AOC$, $\angle COD$ and $\angle BOD$.



Q.90. In the figure, $x: y: z = 5: 4: 6$. If AOB is a straight line, find the values of x, y and z.

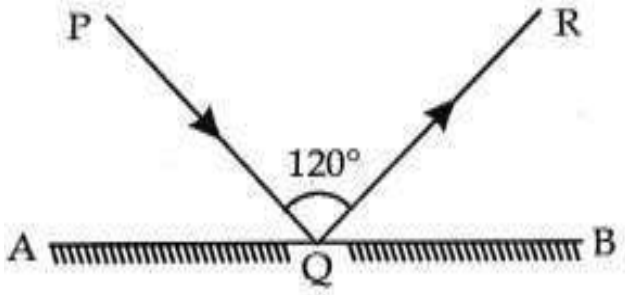


Q.91. In the figure, $\angle AOF$ and $\angle FOG$ form a linear pair such that $\angle EOB = \angle FOC = 90°$ and $\angle DOC = \angle FOG = \angle AOB = 30°$.

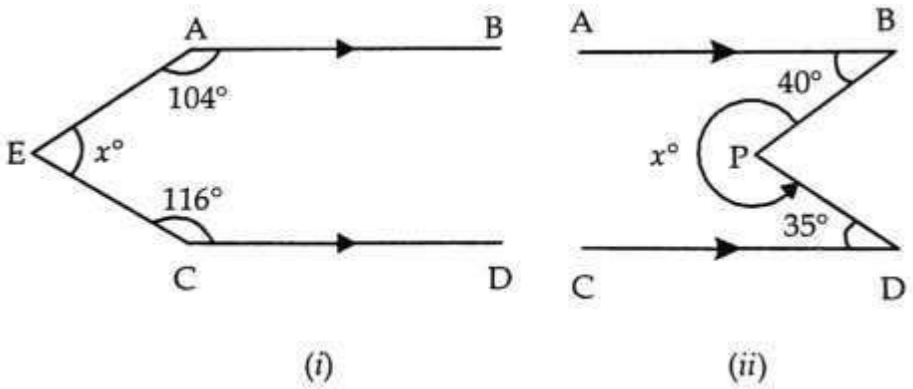


(i) Find the measures of $\angle FOE$, $\angle COB$ and $\angle DOE$.
(ii) Name all the right angles.
(iii) Name three pair of adjacent angles.
(iv) Name three pairs of adjacent complementary angles.
(v) Name three pairs of adjacent supplementary angles.

Q. 92. In the figure, AB is a mirror, PQ is the incident ray and QR, the reflected ray. If $\angle PQR = 120°$, find $\angle PQA$.

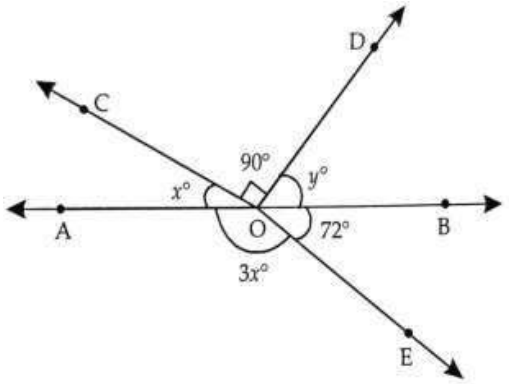


Q.12. In both of the following figures, $AB \parallel CD$. Find the value of x.



(i) (ii)

Q.13. **Case Study Based Question 1:** In the following figure:



$\angle COD = 90°, \angle BOE = 72°$.

Based on the above information, answer the following questions:

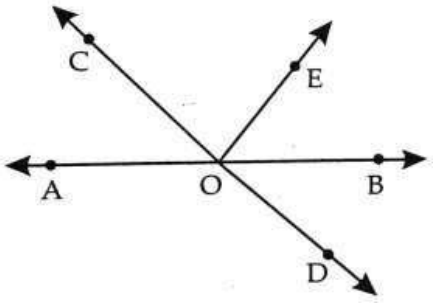
(i) Find $\angle AOC$.
(ii) Find $\angle BOD$.
(iii) Find $\angle AOE$.

OR

Find $\angle AOE - \angle AOC$.

Case Study Based Question 2: In the figure, lines AB and CD intersect at O. If $\angle AOC$

Q.12. $+ \angle BOE = 70°$
and $\angle BOD = 40°$.



Based on the above information, answer the following questions:

(i) Find $\angle COE$.
(ii) Find $\angle BOE$.

OR

Find reflex of $\angle COE$.

R.93. **Assertion (A):** If a ray OC stands on the line AB such that $\angle AOC = \angle COB$ then, $\angle AOC = 90°$.
Reason (R): The sum of the angles of a triangle is 180°.

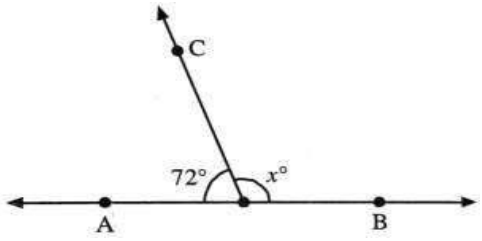
(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

R.94. **Assertion (A):** In the figure, AOB is a straight line, then $x° = 108°$.
Reason (R): If a line stands on a line, then the sum of the adjacent angles so formed is 90°.



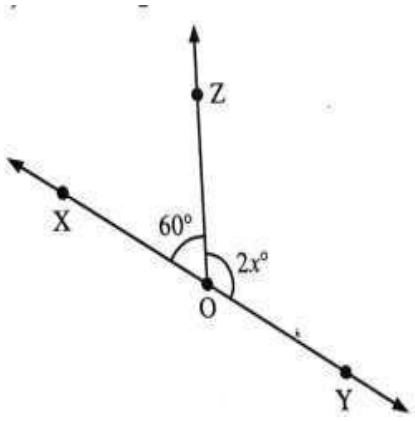
(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

R.95. **Assertion (A):** In the figure, XOY is a line, then $x = 70°$.
Reason (R): If a line stands on a line, then the sum of the adjacent angles so formed is 180°.



(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.

(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.

(c) 'A' is true but 'R' is false.

(d) 'A' is false but 'R' is true.

R.96. **Assertion (A):** 27° and 153° are supplementary angles.

Reason (R): Supplement of an obtuse angle is an acute angle.
(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.
(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.
(c) 'A' is true but 'R' is false.
(d) 'A' is false but 'R' is true.

R.97. **Assertion (A):** Complement of 47° is 43°.

Reason (R): Supplement of 150° is 20°.

(a) Both 'A' and 'R' are true and R is the correct explanation of 'A'.
(b) Both 'A' and 'R' are true but R is not the correct explanation of 'A'.
(c) 'A' is true but 'R' is false.
(d) 'A' is false but 'R' is true.

R.98. If two lines intersect, then prove that the vertically opposite angles are equal.

R.99. Prove that two lines that are respectively perpendicular to two intersecting lines intersect each other.

R.100. If a transversal intersects two lines such that the bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.

R.101. If a transversal intersects two parallel lines, then prove that the bisectors of any pair of corresponding angles so formed are parallel.

R.102. If a transversal intersects two lines such that a pair of interior angles on the same side of the transversal is supplementary, then prove that the two lines are parallel

R.103. If a transversal intersects two parallel lines, then prove that each pair of interior angles on the same side of the transversal is supplementary.

R.104. If a transversal intersects two parallel lines, then prove that each pair of alternate interior angles is equal.

R.105. If a transversal intersects two lines such that a pair of alternate interior angles is equal, then prove that the two lines are parallel.

R.106. Draw a frequency polygon for the following distribution:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Marks	7	10	6	8	12	3	2	2

R.107. The length of 40 leaves of a plant are measured correct to one millimetre, and the obtained data is represented in the following table:

Length (in mm)	118-126	127-135	136-144	145-153	154-162	163-171	172-180
No. of Leaves	7	10	6	8	12	3	2

Draw a histogram to represent the given data.

SUBJECT - CHEMISTRY

1. How does an atom change to cation? How many electrons and protons are there in Mg^{2+}, O^{2-}, Al
2. Write an example of-
   trivalent polyatomic anion and bivalent monoatomic cation.
3. What do you mean by atomicity? What is the atomicity of glucose molecule?
4. Calculate the formula mass of
   a) Calcium nitrate b) Sodium bi carbonate c) Aluminium hydroxide
5. When 5 g of calcium is burnt in 2 g of oxygen 7 gram of calcium oxide is produced. What mass of calcium oxide will be produced when 5 g of calcium is burnt in 20 g of oxygen? Which law of chemical combination will govern your answer here?
6. An element X has valency 3 and Y has valency 2. Write the formula of a compound between X and Y.
7. A 0.24 g sample of compound of carbon and oxygen on analysis was found to contain 0.096 g of carbon and 0.144 g of oxygen . Find the percentage composition of the compound by weight.
8. A pure substance X formed by two elements Y and Z in 1:1 ratio by number. Y is a metal attracted by magnet where as Z is non-metal , yellow powder soluble in carbon di sulphide.
   a. Identify X,Y,Z
   b. Will X be a compound or mixture? Why
   c. Can the constituents Y and Z easily be separated from X?
9. Classify the following as element compound and mixture
   A) Vinegar
   B) Baking soda
   C) Common salt
   D) A bowl of water with floating ice cubes
   E) Sugar
   F) Graphite
   G) Brass
10. Differentiate colloid, true solution and suspension on the basis of
    A. Homogeneity B. Tyndall effect C. Stability D. Particle size

SUBJECT - BIOLOGY

1. Animals of colder regions and fishes of cold water have thicker layer of subcutaneous fat. Describe why?
2. Describe the structure and function of different types of epithelial tissues. Draw diagram of each type of epithelial tissue.
3. Draw well labelled diagrams of various types of muscles found in human body. Also differentiate between various types of muscles on the basis of structure, location and function.
4. If there is low rainfall in a village throughout the year, what measures will you suggest to the farmers for better cropping?
5. Differentiate between –
   (i) Tendons and ligaments
   (ii) Blood and lymph
   (iii) Bones and cartilage
6. Draw a well labeled diagram of nerve cell.
7. Enlist the various factors for which crop variety improvement is done.
8. Cultivation practices and crop yield are related to environmental condition. Explain.
9. ln agricultural practices, higher input gives higher yield. Discuss how?
10. Discuss various methods for weed control. Why the weeds are needed to be removed ?

SUBJECT - PHYSICS

Q1. Define work. State the two conditions necessary for a force to do work. Explain with an example where force is applied but no work is done.

Q2. State the law of conservation of energy. Explain the law with the help of an example of a freely falling object.

Q3. Define kinetic energy. Derive the expression for the kinetic energy of a body moving with uniform velocity.

Q4. Define potential energy. A body of mass m is raised to a height h. Derive the expression for its gravitational potential energy.

Q5. An electric motor lifts a load of 20 kg to a height of 5 m in 4 seconds. Calculate the power of the motor. (Take g = 10 m/s^2)

Q6. What do you understand by power? Define average power.

Q7. A stone of mass 2 kg is thrown vertically upward with a velocity of 10 m/s.

(i) Calculate its kinetic energy at the time of projection.

(ii) How high will the stone rise? (Take g = 10m/s^2)

Q8. A body of mass 5 kg is kept at a height of 10 m above the ground.

(i) Calculate its potential energy. (Take g = 10 m/s^2

(ii) What will be its kinetic energy just before reaching the ground?

Q9. A car of mass 1000 kg is moving with a velocity of 20 m/s. It applies brakes and comes to rest in 10 seconds.

(i) Calculate the initial kinetic energy of the car.

(ii) Find the average power developed by the brakes in stopping the car.

Q10. Explain with suitable examples:

(a) Positive work

(b) Negative work

(c) Zero work

SUBJECT - HISTORY

Chapter 1 The French Revolution

1. Analyse the factors responsible for widespread food shortages and bread riots in France.

2. Examine the contribution of philosophers such as Rousseau, Montesquieu and Voltaire to revolutionary thought.

3. Examine the Reign of Terror under Robespierre and its impact on French society.

4. Assess the position and contribution of women during the French Revolution.

5. Analyse the rise of Napoleon Bonaparte and the changes introduced by him.

Chapter -2 Socialism in Europe and the Russian Revolution

1. "Liberals, radicals and conservatives represented different approaches to political and social change." Examine the differences among these groups.

2. "Industrial workers played a crucial role in the spread of socialist ideas in Europe."Assess the validity of this statement.

3. "Karl Marx and Friedrich Engels gave socialism a scientific and revolutionary character."Elucidate this statement.

4. "Autocratic rule under the Tsar failed to address the aspirations of the Russian people."Evaluate this statement.

5."The February Revolution of 1917 marked a turning point in Russian history."Analyse the statement.

6."The October Revolution resulted in the transfer of power to the Soviets."Examine the significance of this development.

Chapter 3: Nazism and the Rise of Hitler

1. Analyse how the Treaty of Versailles affected Germany politically and economically.

2. Evaluate the factors that contributed to the rise of Adolf Hitler.

3. “Nazi propaganda played a decisive role in the success of the Nazi Party.”Examine the techniques used by the Nazis.
4. “Jews were systematically excluded from German society.” Examine the Nazi policy towards Jews.
5. Assess the role of education and youth organisations in spreading Nazi ideas.
6. Assess the lessons that the world can learn from the experience of Nazism.

SUBJECT - DP

Chapter 1 What is Democracy? Why Democracy?

1. Analyse the essential features that distinguish a democratic government from other forms of government.
2. Analyse how democratic governments enhance the dignity of citizens.
3. Democracy allows people to correct their own mistakes.”Assess the validity of this statement.
4. Elucidate the arguments in favour of democracy.
5. Democracy is better than other forms of government.”Evaluate this statement with suitable examples.
6.Analyse why democracy continues to be the most preferred form of government in the modern world.

Chapter 2 Constitutional Design

1. Examine the role of the Constituent Assembly in framing the Indian Constitution.
2. “The Indian Constitution reflects the ideals of justice, liberty, equality and fraternity.”Assess this statement.
3. Analyse the importance of the Preamble of the Indian Constitution.
4. “The Constitution of India is both rigid and flexible in nature.”Evaluate this statement.
5. Assess the relevance of constitutional values in strengthening Indian democracy today.

Chapter Working of Institutions

1.Evaluate the powers and functions of the President of India.
2.Examine the structure and role of the Indian judiciary.
3.The Supreme Court acts as the guardian of the Constitution.”
Evaluate this role.
4.Assess the contribution of democratic institutions in strengthening Indian democracy.
5.Analyse the role of Parliament in law-making.

SUBJECT - ECONOMICS

Chapter 2: People as Resource

Answer the following questions-

1. A country spends money on education and healthcare of its people.
   Explain how this expenditure becomes an investment rather than a burden.
2. Unemployment among educated youth is increasing in many countries.
   Suggest reasons for this situation and explain its impact on economic growth
3. Distinguish between *economic activities* and *non-economic activities* using suitable examples from daily life.
4. How does poor health affect the productivity of workers?
   Suggest two measures the government can take to improve human capital.
5. “Meena completed her graduation but is unable to find a suitable job. Her brother works on a family farm where more people are employed than required.”

Questions:

1. Identify the type of unemployment faced by Meena.
2. What type of unemployment exists on the family farm?
3. How do these forms of unemployment affect productivity?

4. Suggest two measures to improve employment opportunities.

Chapter 3: Poverty as a Challenge

1. Despite economic growth, poverty still exists in India.
   Analyse the major causes of poverty in rural and urban areas.
2. A family earns slightly above the poverty line but struggles to meet basic needs.
   Do you think income alone is enough to measure poverty? Give reasons.
3. Explain how unemployment and lack of education contribute to poverty.
   Suggest one long-term solution for poverty reduction.
4. Government programmes aim to reduce poverty.
   Why is proper implementation more important than just launching schemes?
5. " Ramesh works as a daily wage labourer in a city. During the lockdown, he lost his job and had no savings. His family struggled to afford food, healthcare and education."

Questions:

1. Identify two indicators of poverty shown in the case.
2.Which type of poverty is faced by Ramesh's family?
3.How does lack of savings worsen poverty?
4.Suggest two measures the government can take to help such families.

Chapter 4: Food Security in India

1. Food security has three dimensions: availability, accessibility, and affordability.
   Explain each dimension with a suitable example.
2. During natural disasters, many people suffer from hunger even when food is available in the country. Why does this happen?
3. The Public Distribution System (PDS) plays an important role in food security.
   Analyse its advantages and limitations.
4. Buffer stock of food grains is maintained by the government.
   How does it help in ensuring food security during emergencies?
5. "Seasonal hunger is more common among agricultural labourers, while chronic hunger affects people who are unable to afford food throughout the year."

Questions:

1. What is meant by seasonal hunger?
2. Distinguish between seasonal hunger and chronic hunger.
3. Why are agricultural labourers more vulnerable to seasonal hunger?
4. Suggest one measure to reduce chronic hunger.

SUBJECT - GEOGRAPHY

Chapter 1: India – Size and Location

1. India's central location in the Indian Ocean has helped in cultural and economic contacts with other countries.
Explain how location influences trade and cultural exchange.

2. Two countries have almost the same latitudinal extent, yet their climatic conditions are different.
Analyse the reasons for this difference.

3.Why is the Standard Meridian of India important for the country?
Explain its significance in daily life.

Chapter 2: Physical Features of India

1.The Himalayan Mountains and the Northern Plains are interdependent.
Analyse this statement with suitable examples.

2.How do physical features influence the settlement pattern and economic activities of people? Explain with reference to any two physiographic divisions.

3.The Peninsular Plateau is rich in mineral resources.
Explain how its geological structure supports this fact.

Chapter 3: Drainage
1.Rivers play an important role in the development of civilisation.
Explain how river systems have supported human activities in India.

2.Differentiate between Himalayan rivers and Peninsular rivers on the basis of origin and nature of flow.
3. Human activities have affected river systems in India.
Analyse any two such activities and their consequences.

4."Human activities such as dam construction, pollution and deforestation have affected river systems in India."

Questions:

1. Name any two human activities mentioned in the source.
2. How does dam construction affect river flow?
3. State one harmful effect of river pollution.
4. Suggest one measure to protect river systems.

Chapter 4: Climate
1. Monsoon winds play a crucial role in India's climate.
Explain how the monsoon influences agriculture and daily life.
2. India experiences extreme climatic diversity.
Analyse the factors responsible for variation in temperature and rainfall.
3. Climate change has increased the frequency of extreme weather events.
Explain its impact on India.

4."The Himalayan mountains act as a climatic barrier by protecting India from cold Central Asian winds."

Questions:

1. How do the Himalayas influence India's climate?
2. What would happen if the Himalayas did not exist?
3. Name one other way in which relief affects climate.
4. How do mountains influence rainfall distribution?

Chapter 6: Population
1. Population growth affects economic development.
Explain the positive and negative impacts of population growth.
2. Population distribution in India is uneven.
Analyse the factors responsible for this uneven distribution.

3. Literacy and health indicators vary across regions.
Explain how these indicators affect the quality of human resources.

4."Population refers to the total number of people living in a particular area at a particular time. Population size and distribution are influenced by physical and human factors."

Questions:

1. What is meant by population?
2. Name any two factors that influence population distribution.
3. How do physical factors affect population distribution?
4. Give one example of a human factor influencing population distribution.

MAP WORK

Chapter 1: India – Size and Location

On the Political Map of India, locate and label:

1. Tropic of Cancer
2. Standard Meridian of India (82°30′E)
3. Indian Ocean
4. Arabian Sea
5. Bay of Bengal
6. Neighbouring Countries (any four):
    - Pakistan
    - Afghanistan
    - China
    - Nepal
    - Bhutan
    - Bangladesh
    - Myanmar
    - Sri Lanka
    - Maldives

Chapter 2: Physical Features of India

Locate and label the following Physiographic Divisions:

(A) Mountains & Plateaus

1. Himalayan Ranges
    - Karakoram Range
    - Zanskar Range
    - Shiwalik Range
2. Aravalli Range
3. Vindhya Range
4. Satpura Range

5. Western Ghats
6. Eastern Ghats

(B) Plateaus & Plains

7. Northern Plains
8. Deccan Plateau
9. Chota Nagpur Plateau

(C) Coastal Plains & Desert

10. Western Coastal Plains
11. Eastern Coastal Plains
12. Thar Desert

Chapter 3: Drainage

Locate and label the following River Systems:

(A) Himalayan Rivers

1. Indus River
2. Jhelum
3. Chenab
4. Ravi
5. Beas
6. Satluj
7. Ganga
8. Yamuna
9. Brahmaputra

(B) Peninsular Rivers

10. Narmada
11. Tapi
12. Godavari
13. Krishna
14. Kaveri
15. Mahanadi

Chapter 5: Natural Vegetation and Wildlife

Locate and label the following Vegetation Regions:

1. Tropical Evergreen Forests (Western Ghats / Andaman & Nicobar)
2. Tropical Deciduous Forests
    - Moist Deciduous

    - Dry Deciduous
3. Thorn Forests (Rajasthan & Gujarat region)
4. Mangrove Forests
    - Sundarbans

Chapter 6: Population

Locate and label:

1. High Population Density States (any two):
    - Uttar Pradesh
    - Bihar
    - West Bengal
    - Kerala
2. Low Population Density Areas (any two):
    - Rajasthan
    - Arunachal Pradesh
    - Ladakh
3. Major Metropolitan Cities (any two):
    - Mumbai
    - Kolkata
    - Chennai

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