ATOMIC ENERGY CENTRAL SCHOOL NO.4

RAWATBHATA

CLASS 10 - ENGLISH LANGUAGE AND LITERATURE

Periodic Test-III (2019-20)

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 40**

General Instructions:

Note: All questions are compulsory.

Section A

1. **Read the passage given below and complete the sentences that follow:** **[8]**

A sparrow is a small bird which is found throughout the world. There are many different species of sparrows. Sparrows are only about four to six inches in length. Many people appreciate their beautiful song. Sparrows prefer to build their nests in low places-usually on the ground, clumps of grass, low trees and low bushes. In cities, they build their nests in building nooks or holes. They rarely build their nests in high places. They build their nests out of twigs, grasses and plant fibres. Their nests are usually small and well-built structures. Female sparrows lay four to six eggs at a time. The eggs are white with reddish-brown spots. They hatch within eleven to fourteen days. Both the male and female parents care for the young. Insects are fed to the young after hatching. The large feet of the sparrows are used for scratching seeds. Adult sparrows mainly eat seeds. Sparrows can be found almost everywhere, where there are humans. Many people throughout the world enjoy these delightful birds.

The sparrows are some of the few birds that engage in dust bathing. Sparrows will first scratch a hole in the ground with their feet, then lie in it and fling dirt or sand over their bodies with flicks of their wings. Many birds, particularly game birds and sparrows, take dust baths as part of their regular preening. The dust helps dislodge parasites and absorbs excess preen oil so feathers are not heavily coated. Birds that do not bathe in water are more likely to use dust baths frequently, but many birds use both types of bathing. They will also bathe in water, or in the dry or melting snow. Water bathing is similar to dust bathing, with the sparrow standing in shallow water and flicking water over its back with its wings, also ducking its head under the water. Both activities are social, with up to a hundred birds participating at once, and is followed by preening and sometimes group singing.

Answer the following questions :

a. The chief food for the adult sparrow is _____.
b. Sparrows live wherever _____.
c. The word, 'species' means_____.
d. Sparrows _____ in high places.
e. _____ take care of the young sparrows.
f. Sparrows take bath in _____.

g. Bathing for the sparrows is a _____.
(a) personal activity (b) routine activity (c) social activity (d) difficult task

h. Bathing is followed by preening and _____.
(a) dancing (b) praying (c) flying (d) group singing

Section B

2. During the monsoons, mosquitoes find safe places like stagnant water and piles of garbage for breeding. As a result, many cases of dengue fever in your city have been noticed. More than a thousand victims have been hospitalized in different parts of the city. You are Varun/Varsha, a responsible citizen. Write a letter to the editor of a local daily, emphasizing the need to create awareness of the problem of dengue, its causes, prevention and treatment. **[8]**

OR

Imagine how the elephant got its trunk or how a giraffe got its long neck and put your imagination in about 150-200 words:

Section C

3. **The following passage has not been edited. There is an error in each line against which a blank has been given. Write the incorrect word and the correction in your answer-sheet against the correct blank number. Remember to underline the word that you have supplied.** **[4]**

		Error	Correction
The children are regularly tell that a diet	(a)	_____	_____
having too much sugar and fat are bad	(b)	_____	_____
for them : and chocolate contain a great	(c)	_____	_____
deal off both of these.	(d)	_____	_____

4. **Rearrange the jumbled words and transform them into meaningful sentences.** **[4]**
   a. sky / the / countless / are / there / stars / in
   b. twinkle / the / sky / stars / the / in / at night
   c. of the / universe / the size / reveals / the vast sky
   d. are / the / Hypergiants / universe / largest / stars / stars / in / the

5. **Read the lines given below and answer the questions that follow:** **[4]**

Pistol in his left hand, pistol in his right,
And he held in his teeth a cutlass bright,
His beard was black, one leg was wood;
It was clear that the pirate meant no good.

   a. Name the poem and the poet.
   b. What did he hold in both hands?
   c. How did the pirate look?
   d. What was the pirate's intention?

Section D

6. How does Maddie feel after listening to the note from Wanda’s father? **[2]**
7. What, according to the Buddha, is the nature of the life of human beings? **[2]**

8. Why was Mrs. Hall ready to avoid the scientist's strange habits and abnormal behaviour? **[2]**
9. Why did Bholi not want to go to school first? What did she realise later? **[2]**
10. How did the baker, known as "pader", highlight his arrival? **[4]**

OR

"Where there is a will, there is a way." Elaborate in the context of the story of "The Making of a Scientist."

CLASS 10 - HINDI A

PERIODIC TEST - III 2019-2020

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 48**

General Instructions:

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Section A

1. **निम्नलिखित गद्यांशों को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए-** **[4]**

प्रकृति की ताकत के सामने इंसान कितना बौना है, यह कुछ समय पहले फिर सामने आया। यों प्रकृति सहनशीलता, धैर्य, अनुशासन की प्रतिमूर्ति के रूप में हमारा पथ-प्रदर्शन करती है, हमारे भीतर संघर्ष का भाव जगाकर समस्या के हल के लिए उत्प्रेरक का काम करती है, लेकिन जब भी इंसान ने खुद को जीवन देने वाले प्रकृति प्रदत्त उपहारों, जैसे-जल, जंगल और जमीन का शोषण जोंक की भाँति करने की कोशिश की, तब चेतावनी के रूप में प्रकृति के अनेक रंग देखने को मिले हैं। जल का स्वभाव है अविरल प्रवाह, जिसे बाँधना वर्तमान समय में मनुष्य की फितरत बन गई है। वनों ने हमेशा मनुष्य को लाभ ही दिया, लेकिन स्वार्थ में अंधे मनुष्य ने वनों को बेरहमी से उजाड़ने, पेड़ों को काटने में कभी संकोच नहीं किया। नदियों की छाती को छलनी कर अवैध खनन के रोज नए रिकॉर्ड बनाना इंसान का स्वभाव बन चुका है। पहाड़ों को खोदकर अट्टालिकाएँ खड़ी करने में हमें कोई हिचक नहीं होती। पृथ्वी के गर्भ से भू-जल, खनिज, तेल आदि को अंधाधुंध या बेलगाम तरीके से निकाले जाने का सिलसिला जारी है। इसलिए नतीजे के तौर पर अगर हर साल तबाही का सामना करना पड़े तो कोई आश्चर्य की बात नहीं होनी चाहिए।

हमें याद रखना होगा कि जब भी प्रकृति अपना अनुशासन तोड़ती है, तब भारी तबाही का मंजर ही सामने आता है। आज जरूरत इस बात की नहीं कि हम इतिहास का दर्शन कर खुद को अभी भी पुरानी हालत और रवैए में रहने दें, बल्कि आवश्यकता इस बात की है कि हम प्रकृति के इस रूप को गंभीरता से लेते हुए अपने आचरण में यथोचित सुधार करें और प्रकृति की सीमा का अतिक्रमण न करें।

i. प्रकृति की ताकत के सामने मानव कब बौना हो जाता है?
ii. प्रकृति के अनुशासन तोड़ने का क्या परिणाम होता है?
iii. प्रकृति हमारे लिए किस प्रकार लाभदायक है?
iv. प्रकृति के अनेक रंग कब देखने को मिले हैं?
v. इस गद्यांश के माध्यम से लेखक ने क्या संदेश दिया है?
vi. उपरोक्त गद्यांश के लिए उचित शीर्षक लिखिए।

Section B

2. **वाक्य भेद लिखिए-** **[2]**

i. सुषमा पढ़ रही है इसलिए शोर मत करो।
ii. जो कल मेरे घर आया था वह मेरा अभिन्न मित्र है।
iii. सूर्योदय होने पर सभी ओर चहल-पहल हो उठी।
iv. उपदेशक मंच पर बैठकर उपदेश देने लगा। (संयुक्त वाक्य में रूपान्तरण कीजिए।)

3. **निर्देशानुसार उत्तर दीजिए-** **[2]**

i. अब आश्रम में पढ़ने के लिए चलें। (भाववाच्य में परिवर्तित कीजिए।)
ii. हम इस प्रकार का मसालेदार खाना नहीं खाते हैं। (कर्मवाच्य बनाइए।)
iii. कवि के द्वारा यह मादक सुन्दरता अनेक रूपों में देखी गई है। (कर्तृवाच्य में बदलिए।)
iv. आइये ! स्नान किया जाय। (कर्तृवाच्य में बदलिए।)

4. **रेखांकित पदों का पद-परिचय दीजिए-** **[2]**

i. पक्षी आकाश में उड़ रहे हैं।

ii. वह निबंध लिखता है।

iii. मोहन दसवीं कक्षा में बैठा है।

iv. हम अपने देश पर मर मिटेंगे।

5. **निम्न प्रश्नों के निर्देशानुसार उत्तर दें-** **[2]**

i. रौद्र रस का स्थायी भाव लिखें।

ii. 'घृणा' किस का स्थायी भाव है?

iii. “अब प्रभु कृपा करौ एहि भांती, सब तजि भजन करहुँ दिन राती।'' में रस बताइये।

iv. 'कहत नटत रीझत खिझत मिलत खिलत लजियात, भरे भौंन में करत हैं नैननु हीं सब बात।' में कौन-सा रस है?

Section C

6. **निम्नलिखित गद्यांश को पढ़िए और नीचे दिए गए प्रश्नों के उत्तर लिखिए-** **[4]**

वही पुराना बालाजी का मंदिर जहाँ बिस्मिल्ला खाँ को नौबतखाने रियाज के लिए जाना पड़ता है। मगर एक रास्ता है बालाजी मंदिर तक जाने का। यह रास्ता रसूलनबाई और बतूलनबाई के यहाँ से होकर जाता है। इस रास्ते से अमीरुद्दीन को जाना अच्छा लगता है। इस रास्ते न जाने कितने तरह के बोल-बनाव कभी ठुमरी, कभी टप्पे, कभी दादरा के मार्फत इयोढ़ी तक पहुँचते रहते हैं। रसूलन और बतूलन जब गाती हैं तब अमीरुद्दीन को खुशी मिलती हैं। अपने ढेरों साक्षात्कारों में बिस्मिल्ला खाँ साहब ने स्वीकार किया है कि उन्हें अपने जीवन के आरम्भिक दिनों में संगीत के प्रति आसक्ति इन्हीं गायिका बहिनों को सुनकर मिली है। एक प्रकार से उनकी अबोध उम्र में अनुभव की स्लेट पर संगीत प्रेरणा की वर्णमाला रसूलनबाई और बतूलनबाई ने उकेरी है।

i. 'रियाज़' शब्द का क्या तात्पर्य है?

ii. रसूलनबाई और बतूलनबाई के यहाँ से होकर बालाजी के मंदिर जाना बिस्मिल्ला खाँ को क्यों अच्छा लगता था?

iii. बिस्मिल्ला ख़ाँ कौन थे? बालाजी मंदिर से उनका क्या संबंध है?

7. कस्बों, शहरों, महानगरों के चौराहों पर किसी-न-किसी क्षेत्र के प्रसिद्ध व्यक्ति की मूर्ति लगाने का प्रचलन-सा हो गया है। इस तरह की मृर्ति लगाने के क्या उद्देश्य हो सकते हैं? **[2]**

8. हालदार साहब को पानवाले की कौन-सी बात अच्छी नहीं लगी और क्यों? **[2]**

9. भगत के व्यक्तित्व और उनकी वेशभूषा का अपने शब्दों में चित्र प्रस्तुत कीजिए। **[2]**

10. 'लखनवी अंदाज़' व्यंग्य किस सामाजिक वर्ग पर कटाक्ष करता है? **[2]**

11. लेखक ने फ़ादर बुल्के को मानवीय करुणा की दिव्य चमक' क्यों कहा है? **[2]**

12. **निम्नलिखित काव्यांशों को ध्यानपूर्वक पढ़कर आधारित प्रश्नों के उत्तर दीजिए-** **[4]**

ऊधौ, तुम हो अति बड़भागी।
अपरस रहत सनेह तगा तैं, नाहिन मन अनुरागी।
पुरइनि पात रहत जल भीतर, ता रस देह न दागी।
ज्य जल माहूँ तेल की गागरिं, बूंद न ताका लागी।
प्रीति-नदी में पाउँ न बोर्दी, दृष्टि न रूप परागी।
'सूरदास' अबला हम भोरी, गुर चाँटी ज्यौं पाग।

i. इस पद में किस भाषा का प्रयोग हुआ है?

ii. गोपियों ने स्वयं को 'अबला' और 'भोली' बताकर उद्धव पर क्या कटाक्ष किया है?

iii. गोपियों ने उद्धव को 'बड़भागी' क्यों कहा है?

13. इहाँ कुम्हड़बतिया कोउ नाहीं - यह पंक्ति किसने और किस संदर्भ में कही है ? **[2]**

14. पद्यांश के आधार पर परशुराम के स्वभाव की विशेषताओं पर कोई दो टिप्पणी कीजिए। **[2]**

15. उत्साह गीत में कवि ने किसे संबोधित किया है ? **[2]**

16. बच्चे की मुसकान और एक बड़े व्यक्ति की मुसकान में क्या अन्तर है? **[2]**

17. छाया छूने से कवि का क्या तात्पर्य है? इसे छूने से क्यों मना किया है? **[2]**

18. 'जॉर्ज पंचम की नाक' को पुनः लगाने के लिए क्या - क्या किए गए | **[3]**

OR

आप चैन की नींद सो सकें इसीलिए तो हम यहाँ पहरा दे रहे हैं?- एक फौजी के इस कथन पर जीवन-मूल्यों की दृष्टि से चर्चा कीजिए।

Section D

19. नियमित व्यायाम का महत्व बताते हुए छोटे भाई को एक पत्र लिखिए। **[5]**

CLASS 10 - MATHEMATICS

PERIODIC TEST - III 2019-2020

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 40**

General Instructions:

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Section A

1. For any two positive integers a and b, such that a > b. there exist (unique) whole numbers q and r such that **[1]**

   a) $a = bq + r, 0 \leqslant r < b$ b) a = qbr

   c) $b = aq + r, 0 \leqslant r < b$ d) $q = ar + b, 0 \leqslant r < b$

2. If $\alpha \ and \ \beta$ are the zeroes of the polynomial $2x^2 + 5x + 1$, then the value of $\alpha + \beta + \alpha\beta$ is **[1]**

   a) – 2 b) 3

   c) – 1 d) 1

3. The system of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ has a unique solution if **[1]**

   a) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ b) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

   c) None of these d) $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

4. The sum S of first n even natural numbers is given by the relation S = n(n +1). If the sum is 420, then the value of 'n' is **[1]**

   a) 20 b) 21

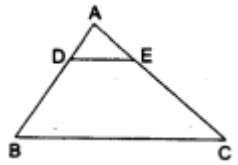
   c) 24 d) 22

5. If the second term of an AP is 13 and its fifth term is 25, then its 7th term is **[1]**

   a) 37 b) 33

   c) 39 d) 35

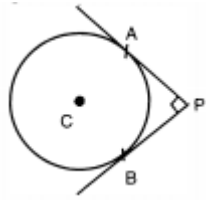
6. If D and E are points on the sides AB and AC respectively of $\triangle ABC$ such that AB = 5.6 cm, AD = 1.4 cm, AC = 7.2 cm and AE = 1.8 cm, show that $DE \| BC$. **[1]**



7. If 18, a ,b ,- 3 are in A.P., then find a + b. **[1]**

8. Prove the trigonometric identity: **[1]**
   $\cos ec\theta\sqrt{1 - \cos^2\theta} = 1$

9. In fig., PA and PB are two tangents drawn from an external point P to a circle with centre C and radius 4 cm. If PA $\perp$ PB, then find the length of each tangent. **[1]**



10. Find the ratio of the area of the incircle and circumcircle of a square. **[1]**

Section B

11. Use factorization method to solve the quadratic equation. $4x^2 - 4ax + (a^2 - b^2) = 0$ **[2]**

12. The sum of three numbers of an AP is 27 and their product is 405. Find the numbers. **[2]**

OR

Find the quadrant in which the point P which divides the line segment joining the points A(2, - 5) and B(5, 2) in the ratio 2 : 3.

13. $\triangle ABC$ is an isosceles triangle with AC = BC. If $AB^2 = 2AC^2$. Prove that $\triangle ABC$ is a right triangle. **[2]**

Section C

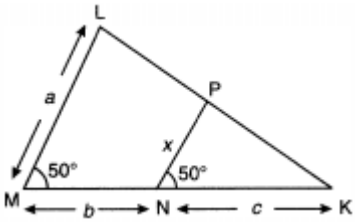
14. If two positive integers p and q are written as $p = a^2b^3$ and $q = a^3$ b, a and b are a prime number then. Verify.LCM $\times$(p.q.) $\times$ HCF (p.q.) = pq **[3]**

15. Solve graphically the following system of linear equations. Also, find the coordinates of the points where the lines meet the axis of x in each system: **[3]**

2x + 3y = 8

x - 2y = -3

16. In the given figure, find the value of x in terms of a, b and c **[3]**



OR

If $\tan\theta = \frac{1}{\sqrt{7}}$, show that $\frac{\text{cosec}^2\theta - \sec^2\theta}{\text{cosec}^2\theta + \sec^2\theta} = \frac{3}{4}$.

17. Find the area of a triangle ABC with A(1, - 4) and mid-points of sides through A being (2, -1) and (0, -1). **[3]**

OR

In two concentric circles, a chord of length 24 cm of larger circle becomes a tangent to the smaller circle whose radius is 5 cm. Find the radius of the larger circle.

Section D

18. Obtain all other zeroes of the polynomial $x^4 + 6x^3 + x^2 - 24x - 20$, if two of its zeroes are + 2 and - 5. **[4]**

19. A manufacturer of TV sets produced 600 units in the third year and 700 units in the seventh year. Assuming that the production increases uniformly by a fixed number every year. Find the production in **[4]**

i. The first year

ii. The 10th year

iii. 7 years.

OR

A straight highway leads to the foot of a tower of height 50 m. From the top of the tower, the angles of depression of two cars standing on the highway are 30° and 60° respectively. What is the distance between the two cars and how far is each car from the tower?

20. Draw a triangle ABC with side BC = 6 cm, AB = 5 cm and $\angle ABC = 60^\circ$. Then construct a triangle whose sides are $\frac{3}{4}$ of the corresponding sides of triangle ABC. **[4]**

ATOMIC ENERGY CENTRAL SCHOOL NO.4

RAWATBHATA

CLASS 10 - SCIENCE

periodic test III(2019-20)

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 40**

General Instructions:

Drawlabeled diagrams wherever asked...

Section A

1. **[1]**

$2FeSO_4 \xrightarrow{heat} Fe_2O_3 + SO_2 + SO_3$

The above reaction is

a) double displacement reaction b) combination reaction

c) displacement reaction d) decomposition reaction

2. $CH_2 = \mathrm{CH_2}+\mathrm{Br_2(aq)} \rightarrow \mathrm{BrCH_2-CH_2Br}$ **[1]**

The above reaction is an example of:

a) Hydrogenation reaction b) Substitution reaction

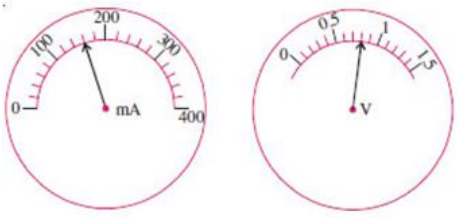
c) Combustion reaction d) Addition reaction

3. Statement A : Tendu leaves are used to make Bidis , Statement B : AK Banerjee was involved in the protection of Khejri trees **[1]**

a) Statement B is true, A is false b) Neither statement A nor statement B is true

c) Statement A is true, B is false d) Both the Statement A and B are true

4. When performing the experiment on Ohm's law noted the milliammeter reading and voltmeter reading. From the obtained readings, the value of resistance calculated by him will be **[1]**



a) 5 Ω b) 0.005 Ω

c) 0.5 Ω d) 0.05 Ω

5. The magnetic field lines inside a long current-carrying solenoid are nearly- **[1]**

a) Straight b) Elliptical

c) Parabolic d) Circular

6. Name the gland which function actively in emergency situations. **[1]**

7. Name one plant hormone, which inhibits growth. Write its one more function. **[1]**

8. How is a voltmeter connected in the circuit to measure potential difference between two points? **[1]**

9. What is the name given to change of path of light with change of medium ? **[1]**

10. You have a spherical mirror. The image of an object placed in front of the mirror is virtual. If the position of the object is charged, the image remains virtual end erect. Is the spherical mirror concave or convex? **[1]**

Section B

11. Explain what is short circuiting and overloading in an electric supply ? **[3]**

OR

What is the role of the two conducting stationary brushes in a simple electric motor?

12. A compound X is bitter in taste. It is a component of washing powder & reacts with dil. HCI to produce brisk effervescence due to colourless, odourless gas Y which turns lime water milky due to formation of Z. When excess of this gas is passed, the milkiness disappears due to the formation of P. **[3]**

Identify X, Y, and Z & P.Also write the chemical equation for the reaction between gas Y and limewater.

13. State the property utilised in the following: **[3]**

i. Graphite in making electrodes.

ii. Electrical wires are coated with Polyvinyl Chloride (PVC) or a rubber-like material.

iii. Metal alloys are used for making bells and strings of musical instruments.

OR

Explain the process of electrolytic refining for copper with the help of a labelled diagram.

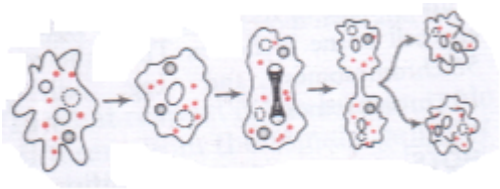
14. Draw a labeled diagram of human excretory system and label the following **[3]**

a)part where wastes are removed from blood

b)urine is stored

c) part through which urine is discharged to outside

15. Study the diagram given below: **[3]**



i. Identify the process.

ii. Which organism uses the above method for reproduction?

iii. How is the above method different from the process of fragmentation?

OR

What does HIV stand for? Is AIDS an infectious disease? List any four modes of spreading AIDS.

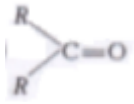
Section C

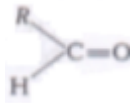
16. How does atmospheric refraction affect sunrise and sunset? **[5]**

OR

When do we consider a person to be myopic or hypermetropia? List two causes of hypermetropia. Explain using ray diagrams how the defect associated with hypermetropia eye can be corrected.

17. i. Write the names of the functional groups in **[5]**

1. 

2. 

ii. Describe a chemical test to distinguish between ethanol and ethanoic acid.

iii. Write a chemical equation to represent what happens when hydrogen gas is passed through an unsaturated hydrocarbons in the presence of nickel as a catalyst?

18. Name any five vegetables generated from a common ancestor through artificial selection rather than natural selection. Also mention the features for which each vegetable is selected? **[5]**

CLASS 10 - SOCIAL SCIENCE

PERIODIC TEST - III 2019-2020

Time Allowed: 1 hour and 30 minutes **Maximum Marks: 40**

General Instructions:

...

Section A

1. Which incident marked the beginning of the Civil Disobedience Movement? **[1]**
2. What is G -77? **[1]**
3. Name two rainwater harvesting structures built in Rajasthan. **[1]**
4. Mention two beverage crops grown in India. **[1]**
5. Name any two minerals which are found in veins and lodes. **[1]**
6. In case of a clash between the laws made by the centre and a state on a subject in the concurrent list, whose law will prevail? **[1]**
7. Name the sect of Christianity represented by nationalist parties who demanded that Northern Ireland is united with the Republic of Ireland. **[1]**
8. Write one example of inequality in urban areas. **[1]**
9. What is demand deposit? **[1]**

Section B

10. Explain some economic effects of the Non-Cooperation Movement. **[3]**
11. Why did some people in 18^{th} century Europe think that print culture would bring enlightenment and end despotism? **[3]**
12. Which is the recently formed national party? Examine its objectives and present status. **[3]**
13. Can you elaborate the effects of government's decision on the small production unit of Ravi? **[3]**

Section C

14. How much land is degraded in India at present? Explain four human activities which are mainly responsible for land degradation in India. **[5]**
15. Explain the power sharing arrangement among the different organs of the government. **[5]**
16. Sumit is a marginal farmer who works in the farmland of the rich farmer in his village while Rahul is a lawyer. Describe the sector and the conditions in which the conditions. **[5]**
17. . **[4]**

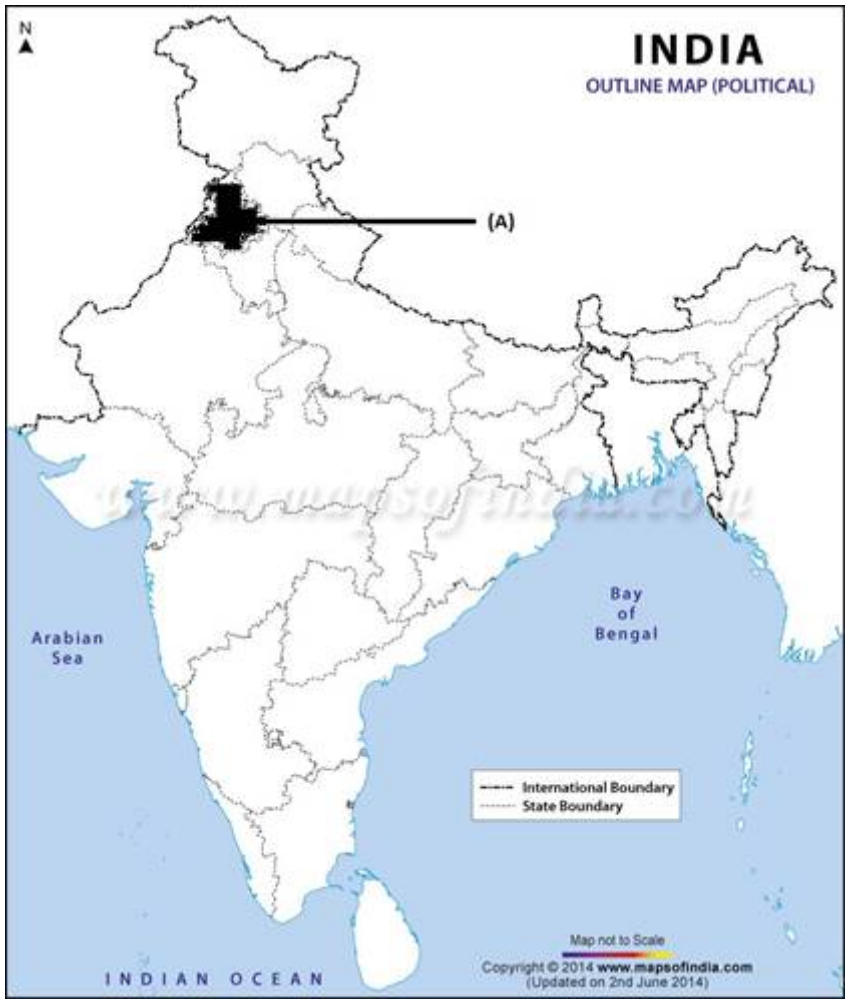
a) i. Features 'A' is marked in the given political map of India. Identify this feature with the help of the following information and write their correct name on the line marked on the map.

   a. A major wheat producing state

   ii. On the same map of India locate and label the following items with appropriate symbols:

   a. A leading Rubber producing state

b. A Major tea producing state

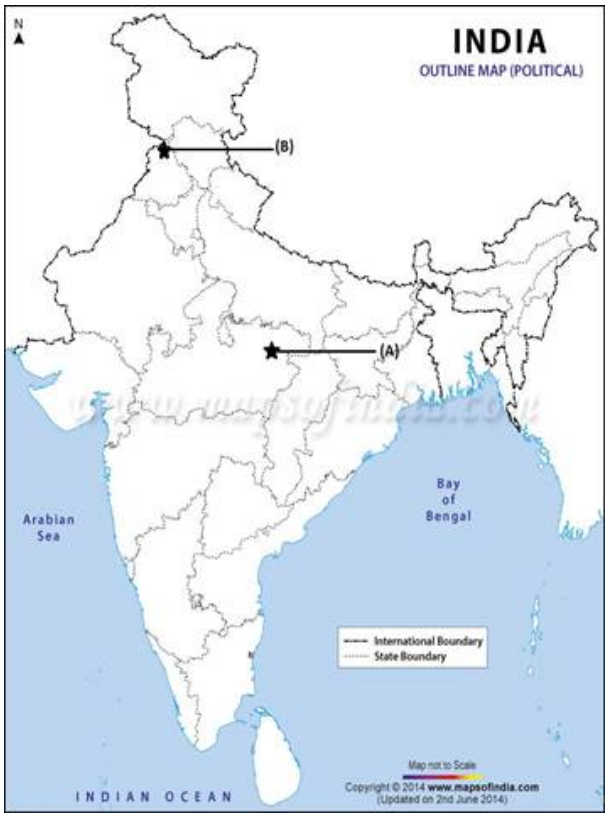


b) i. Two features A and B are marked in the given political map of India. Identify these features with the help of the following information and write their correct names on the lines marked on the map.

a. The place where Congress Session was held in 1920

b. The place where Jallianwala Bhag massacre took place

ii. Locate and Label the state to which Gudem rebels belonged with appropriate symbols on the same map given for identification


N
INDIA
OUTLINE MAP (POLITICAL)
(B)
(A)
Bay
of
Bengal
Arabian
Sea
International Boundary
State Boundary
Map not to Scale
Copyright © 2014 www.mapsofindia.com
(Updated on 2nd June 2014)
INDIAN OCEAN

Solution

Class 10 - English Language and Literature

Periodic Test-III (2019-20)

Section A

1. a. seeds
   b. there are humans
   c. kinds
   d. rarely build their nests
   e. Both parents
   f. dust, water or snow
   g. social activity
   h. preening, group singing

Section B

2. 193-B,
   Sector-15,
   Chandigarh
   14th Nov 2018
   The Editor
   Times of India
   Chandigarh
   Sir,

   Subject: Dengue-Prevention is better than cure!

   In the past month, an alarming increase in the incidence of dengue cases in the city has been noticed which is a cause for extreme concern and demands the immediate attention of the Health Care department, Municipal Corporation as well as of the general public.

   Dengue is a viral infection is caused by a virus which cannot be treated with antibiotics. It is treated with under Doctor's supervision. precautions to prevent this terrible disease:

   i. Dengue spreads through mosquito bites. To stop the transmission from one patient to another individual, it is necessary to use mosquito nets at night
   ii. Mosquito eradication is necessary for indoors as well as in neighbourhood; thus spraying of mosquito repellant is necessary.
   iii. Limbs should be coated with mosquito repellant sprays and lotions.

   High fever is a discernible symptom and may lead to complications due to lowering of the platelet count. Any bleeding during the infection would be difficult to control. Severe cases may require blood transfusions. Since, the carrier mosquito breeds in stagnant waters, close to human habitations, cleanliness of the environment is immensely important and a key precaution for prevention. Vaccination is not an option and any previous infection does not guarantee immunity as there are numerous viruses that cause it. Awareness is immensely important to initiate preventive measures. I hope my letter will be published for the common good of the people.

   Thanking you,
   Yours truly,
   Varsha.

   OR

   How the Giraffe Got Its Long

   A long time, the giraffe had a very short neck and short legs. Once summer was going on and there was little water left and almost no grass or leaves on the trees. One day a giraffe told the situation to a rhino. They had no idea how to get food and water. Giraffe suddenly got an idea and remembered that the bush doctor would be able to help him and his friend Rhino. He told the doctor about his problem. The doctor asked to come the next day and he would give them magic medicine to grow their neck and legs. The next morning he and rhino were back at the doctor's office and got magic pills to drink. The doctor said it might take a few days and they would have to drink the pills a few times. The next day rhino told giraffe he was not going with him to the

doctor. Giraffe went by himself and the doctor decided he was not going to waste the magic pills and gave a double dosage to a giraffe for 4 days. After few days while giraffe was out looking for food he suddenly felt a strange tingling in his legs and neck and the next moment it just started growing. Giraffe got taller and taller until he could reach the top of the tree and eat the nice leaves. Rhino was very happy for his friend because rhino understood that giraffe did go through all the trouble every day. The Giraffe was a kind animal and he started picking the leaves from the trees and threw for his friends. This was how the giraffe got his long neck and legs.

Section C

3.

	Error	**Correction**
(a)	tell	told
(b)	are	is
(c)	contain	contains
(d)	off	of

4. a. There are countless stars in the sky.
   b. The stars twinkle at night in the sky.
   c. The vast sky reveals the size of the universe.
   d. Hyper giants stars are the largest stars in the Universe.
5. a. Poem - 'The Tale of Custard the Dragon'; Poet - Ogden Nash
   b. Pistols
   c. The pirate held in his teeth a bright cutlass. His beard was black and one leg was made of wood.
   d. The pirate's intention was to cause harm to Belinda and her pets.

Section D

6. After listening to the note from Wanda's father, Maddie feels deeply hurt and sad for Wanda. She cannot concentrate on her work. She has a very sick feeling in the bottom of her stomach. Now Maddie feels guilty as she did not stop Peggy from making fun of Wanda. She has just stood silently, and that is as bad as what Peggy has done.
7. According to the Buddha, the life of mortals in this world is troubled and brief. It is combined with pain. Nobody can avoid dying. One has to die after reaching old age. Such is the nature of the life of human beings. As all earthen vessels after a certain period of time break, so is the life of mortals. Only he who does not lament, complain and grieve can get peace of mind. He who has overcome sorrow will be free from sorrow and be blessed.
8. Mrs. Hall was ready to avoid the scientist's strange habits and abnormal behaviour because he had paid her in advance. She thought that her guest was an eccentric scientist but she was satisfied as she had received money from him. So she decided to excuse his strange habits and irritable temper.
9. Bholi first did not want to go to school along with her father because she did not know anything about school. when her father suddenly caught by her hand, she got frightened. She thought she would also be sold as her old cow, Lakshmi was sold. But when she was bathed and was given a clean dress and her hair was oiled, she thought that she was going to a better place than her home. As no one took her care like that earlier.
10. When the author was a young child, the baker used to come to his house twice a day. He came there to sell his loaves of bread. He made his musical entry on the scene with the 'Jhang, Jhang' sound of his specially made bamboo staff. One hand supported the basket on his head and the other banged the bamboo on the ground. He would greet the lady of the house with "Good morning" and then place his basket on the vertical bamboo. The baker would get loaves for the elders and bangles for the children. The children would be pushed aside with a mild rebuke and the loaves would be delivered to the servant. Thus, the baker was very popular among the people as well as among the children. Everyone would look forward to his arrival.

    OR

    Ebright had a will to become a successful scientist. However, he did not have enough resources and the right guidance to follow his dream. His curiosity and his strong will made him work hard on various projects and he was able to formulate theories that helped him win many prizes. As a high school junior, he continued his advanced experiments on discovering a hormone on the monarch pupa. His hard work and determination rewarded him and he won a prize. In his senior year, he got an opportunity to work at the army laboratory

where he was able to conduct many experiments. This shows that if one has a will to do something, then, God opens all doors for him or her. Ebright's will to work and his curiosity helped him overcome his lack of resources and helped him in becoming a successful scientist. He was able to work well under the guidance of the right people and apply what he learned.

Solution

Class 10 - Hindi A

PERIODIC TEST - III 2019-2020

Section A

1. i. जब हम प्रकृति की सीमा का अतिक्रमण करते हैं तो उसका तांडव देखने को मिलता है मानव प्रकृति की विनाशलीला के समक्ष अपने आप को विवश पाता है और प्रकृति की ताकत के सामने मानव बौना जान पड़ता है।
   ii. प्रकृति के अनुशासन तोड़ने का परिणाम हमारे सामने भारी तबाही के परिदृश्य के रूप में प्रकट होता है जिस पर नियंत्रण असंभव होता है।
   iii. प्रकृति से हम सहनशीलता, धैर्य, अनुशासनआदि विभिन्न नैतिक मूल्यों को ग्रहण कर सकते हैं।इससे हम संघर्ष का भाव सीखकर समस्याओं के हल के लिए उत्प्रेरणा प्राप्त कर सकते हैं । जल, जंगल, जमीन आदि से हमें अनेक उपहार मिलते हैं।
   iv. जब इंसान ने खुद को जीवन देने वाले प्रकृति प्रदत्त उपहारों, जैसे-जल, जंगल और जमीन का शोषण जोंक की भाँति करने की कोशिश की, अर्थात जब हम स्वार्थवश अतिदोहन की प्रक्रिया को अंज़ाम देते हैं तब चेतावनी के रूप में प्रकृति के अनेक रंग देखने को मिले हैं।
   v. इस गद्यांश के माध्यम से लेखक ने यह संदेश दिया है कि हम अपने अधिकाधिक लाभ कमाने के पुराने रवैए को छोड़कर अपने आचरण में यथोचित सुधार करना होगा ।हमें प्रकृति की सीमा का अतिक्रमण नहीं करना चाहिए अन्यथा हमें गंभीर प्राकृतिक आपदाओं का सामना करना पड़ेगा।
   vi. प्रकृति और मानव

Section B

2. i. संयुक्त वाक्य
   ii. मिश्रित वाक्य (विशेषण उपवाक्य)
   iii. सरल वाक्य
   iv. उपदेशक मंच पर बैठा और उपदेश देने लगा।
3. i. अब आश्रम में पढ़ने के लिए चला जाए।
   ii. इस प्रकार का मसालेदार खाना नहीं खाया जाता है।
   iii. कवि ने यह मादक सुंदरता अनेक रूपों में देखी है।
   iv. चलो, स्नान करते हैं।
4. i. **उड़ रहे हैं-** क्रिया, अकर्मक, पुल्लिंग, बहुवचन, वर्तमान काल।
      अकर्मक क्रिया, बहुवचन, पुल्लिंग, वर्तमान काल।
   ii. **निबन्ध-** संज्ञा, जातिवाचक, पुल्लिंग, एकवचन, कर्म कारक।
   iii. **मोहन-** संज्ञा, व्यक्तिवाचक पुल्लिंग एकवचन।
      व्यक्तिवाचक संज्ञा, एकवचन, पुल्लिंग, कर्ता कारक।
   iv. **देश पर-** संज्ञा, जातिवाचक पुल्लिंग एकवचन, अधिकरण कारक।
5. i. रौद्र रस का स्थायी भाव 'क्रोध' है।
   ii. 'घृणा' वीभत्स रस का स्थायी है।
   iii. पंक्ति में 'शांत रस' है।
   iv. पंक्ति में 'श्रृंगार रस' है।

Section C

6. i. रियाज शब्द का तात्पर्य बार-बार शहनाई बजाने का अभ्यास करने से है ।
   ii. रसूलनबाई और बतूलनबाई के यहाँ से होकर बालाजी के मंदिर जाना बिस्मिल्ला खाँ को इसलिए अच्छा लगता था कि इन दोनों बहनों का गायन कभी ठुमरी कभी टप्पे,कभी दादरा अलग-अलग सुनने का अवसर मिलता था, जिससे उन्हें प्रसन्नता मिलती थी। उन्हें जीवन के आरंभिक दिनों में संगीत के प्रति आसक्ति इन्ही गायिका बहिनों को सुनकर मिली |
   iii. बिस्मिल्ला खाँ विश्व प्रसिद्ध शहनाई वादक थे। उन्हें नौबतखाने प्रतिदिन शहनाई के रियाज़ के लिए जाना पड़ता था ।
7. कस्बों, शहरों, महानगरों के चौराहों पर किसी-न-किसी क्षेत्र के प्रसिद्द व्यक्ति की मूर्ति लगाने का प्रचलन-सा हो गया है | इस तरह की मूर्ति लगाने के पीछे प्रमुख उद्देश्य यह है कि ऐसा करके देश की एकता, अखंडता और स्वतंत्रता के लिए कार्य करने वाले महापुरुषों के प्रति आदर और कृतज्ञता के भाव प्रकट करना है | जिन लोगों ने देश के लिए अपना सर्वस्व त्याग कर दिया उनके प्रति श्रद्धा प्रकट करना ही मूर्ति लगाने का प्रमुख उद्देश्य है |
8. हालदार साहब द्वारा कैप्टन के बारे में पूछने पर पानवाला कहता है कि कैप्टन तो लंगड़ा है, वह फ़ौज में क्या जाएगा | वह तो पागल है, पागल | पानवाले के द्वारा कैप्टन का इस प्रकार मजाक उड़ाया जाना हालदार साहब को अच्छा नहीं लगा क्योंकि शारीरिक रूप से असमर्थ होते हुए भी कैप्टन के मन में नेताजी के प्रति सम्मान की भावना थी | नेताजी की चश्माविहीन मूर्ति उसे आहत करती थी इसलिए वह उस पर चश्मा लगा देता था |
9. भगत का समग्र व्यक्तित्व साधु की सब परिभाषाओं पर खरा उतरने वाला था। साठ वर्षीय भगत गोरे-चिट्टे मंझोले कद के व्यक्ति थे, जिनके बाल पके हुए थे | वे कबीर के दोहों तथा पदों को गाते और उन्हीं के बताए हुए मार्ग पर चलते थे। वे झूठ कभी नहीं बोलते और न ही झगड़ा करते थे। उनकी सब चीज 'साहब' की थी। खेत में पैदा होने वाली हर फसल को 'साहब' के दरबार में भेंट करके 'प्रसाद' रूप में जो मिलता उसे घर लाते, वे कमर में लँगोटी, सिर पर रेपी, जाड़ों में काली कमली ओढ़ते थे और मस्तक पर चन्दन का तिलक तथा गले में तुलसी की माला धारण करते थे। वे इस तरह से साधु वेश में रहते हैं | उनका जीवन आदर्श साधुता से परिपूर्ण था |

10. 'लखनवी अंदाज़' पाठ के माध्यम से लेखक ने यह बताने का प्रयास किया है आज भी नवाबी लोग अपनी नवाबी छिन जाने पर झूठी शान तथा तौर-तरीकों का ही दिखावा करते हैं और ऐसा करते समय वे यह भी नहीं सोचते कि इसमें उन्हें कोई लाभ मिलने वाला नहीं | जैसे पाठ में अपने दिखावे की प्रवृत्ति के कारण नवाब साहब को भूखा ही रहना पड़ा | वास्तव में यह व्यंग्य उस सामंती वर्ग पर कटाक्ष करता है जो अपनी झूठी शान बनाए रखने के लिए कृत्रिमता से युक्त जीवन जीते हैं |
11. फादर बुल्के मानवीय गुणों से लबरेज़ थे | उनके मन में मानव के प्रति कल्याण, अपनत्व, ममत्व और करुणा की भावना थी | अपनी सहृदयता के कारण ही वे सबके प्रिय थे | वात्सल्यता का सागर तो उनकी नीली आँखों में तैरता रहता था | उनके हाथ सदैव दूसरों को आशीर्वाद देने के लिए उठते थे | संकट के समय वे अपने प्रियजन को इस प्रकार सांत्वना देते थे कि वह सारा दुःख भूलकर शांतचित्त हो जाता था | इन्हीं कारणों से लेखक ने फादर को 'मानवीय करुणा की दिव्य चमक' कहा है |
12. i. इस पद में ब्रजभाषा का प्रयोग हुआ है।
    ii. उद्धव के ज्ञान-अभिमान पर व्यंग्य प्रहार किया हैं। गोपियों के अनुसार अहंकार रहित और सरलमना व्यक्ति ही श्रीकृष्ण के प्रेम का पात्र हो सकता है। ज्ञान मार्ग की तुलना में प्रेम मार्ग सुलभ व सर्वग्राह्य है।
    iii. वह कभी प्रेम के बंधन में नहीं पड़े। कृष्ण के सान्निध्यमें रहकर भी उद्धव प्रेम के मर्म को समझ नहीं पाए और उन्हें प्रेम की पीड़ा नहीं भोगनी पड़ी। वास्तव में तो गोपियाँ उन्हें अभागा व्यक्ति मानतीं एवं ज्ञान और योग के अहंकार में प्रेम जैसे पावन अनुभव से वंचित मानतीं हैं।
13. उपर्युक्त पंक्ति लक्ष्मण जी ने परशुराम जी से उस समय कही जब वे उन्हें बार-बार अपने क्रोध,पराक्रम और प्रतिष्ठा के विषय में बताते हुये उन्हें अपने फरसे की तीक्ष्णता से भी अवगत करा रहे थे जिसे सुन कर लक्ष्मण जी स्वयं पर नियंत्रण नहीं रख सके और प्रत्युत्तर में बोले कि बार-बार ये कुल्हाड़ा दिखा कर आप मानो फूँक से पहाड़ उड़ाना चाहते हो तो यहाँ कोई कुम्हड बतिया अर्थात कमजोर नहीं हैं जो आपकी तर्जनी देख कर डर जाए। इस लोकोक्ति के द्वारा वे परशुराम जी को सचेत करना चाहते है कि उनकी बातों से वे तनिक भी नहीं डरे,उन्हे अपनी शक्ति और क्षमता पर पूरा विश्वास है और वे उनका घमंड तोड़ने का पूरा साहस रखते हैं। और यदि आपको अपनी क्षमता पर इतना ही घमंड है तो आकर हमसे युद्ध कीजिएगा हम युद्ध के लिए तैयार हैं। हम तो आपको एक ऋषि, महात्मा समझ कर छोड़ रहे हैं। पर हम ब्राह्मण और ऋषि, महात्माओं के साथ युद्ध नहीं करते हैं।
14. राम लक्ष्मण परशुराम संवाद के आधार पर परशुराम के चरित्र की दो विशेषताएँ निम्नलिखित हैं -
    i. परशुराम अत्यंत क्रोधी स्वभाव के हैं | उनका क्रोध विश्वप्रसिद्ध है |
    ii. उन्हें अपनी वीरता पर और धनुर्विद्या पर घमंड है | अपनी इसी वीरता से उन्होंने अनेक बार धरती को क्षत्रियों से रहित कर ब्राह्मणों को दान में दी थी |
15. निराला जी के द्वारा रचित 'उत्साह' एक आह्वान गीत है | इसमें कवि ने बादलों को संबोधित किया है | वह समाज में परिवर्तन लाना चाहता है | उसने बादलों को क्रांति का अग्रदूत बताया है जो पीड़ित लोगों के मन को शांति प्रदान करता है |
16. बच्चे की मुसकान सरल एवं स्वाभाविक होती है। उसमें निश्छलता और मासूमियत होती है। मन में किसी के लिए दुर्भावना नहीं होती। जबकि बड़े व्यक्ति की मुसकान परिस्थितियों के अनुसार तय होती है। वह बनावटी भी हो सकती है। उसमें चालाकी, स्वार्थ या किसी के प्रति दुर्भावना भी छिपी हो सकती है।
17. छाया छूने से कवि का तात्पर्य हैबीते दिनों की सुखद स्मृतियों को याद करने से हैं और जब मनुष्य दुखी जीवन में मीठे क्षणों को याद करता है, तब कवि ने उन क्षणों को छाया छूना कहा है। कवि इन स्मृतियों को याद करने से इसलिए मना करता है क्योंकि बीती हुई यादें मनुष्य को और दुखी बना देती हैं। इनसे मनुष्य कमजोर हो जाता है। वह बीते हुए सुखद क्षणों को याद करके अपने दुखों को और अधिक गहरा कर लेता है।
18. जॉर्ज पंचम की लाट की नाक को पुनः लगाने के लिए मूर्तिकार ने निम्नलिखित यत्न किए-
    i. मूर्तिकार ने 'जार्ज पंचम की मूर्ति की नाक किस पत्थर के बने थे' के उसे पता लगाने के लिए प्रयास किया।
    ii. उसने हिन्दुस्तान के प्रत्येक पहाड़ी प्रदेश और हर एक पहाड़ पर जाकर ऐसा ही पत्थर खोजने का प्रयास किया |
    iii. मूर्तिकार भारतीय नेताओं की मूर्तियाँ देखने के लिए देश में चप्पे-चप्पे पर घूमा ताकि फिट होने लायक नाक खोजी जा सके ।
    iv. उसने बिहार में सन् बयालीस में शहीद होने वाले बच्चों की मूर्तियों की नाकों को भी देखकर परखने का प्रयास किया कि शायद फिट हो जाए |
    v. कहीं भी उपयुक्त नाक नहीं मिल पाई |
    vi. अन्त में उसने जिंदा व्यक्ति की नाक काटकर जार्ज पंचम की लाट पर लगा दी।

OR

लेखिका का सफ़र जब आगे बढ़ा तो वहाँ उसे कुछ दृश्य दिखाई देने लगा वह दृश्य एक फौजी छावनियाँ दिखाई दे रही थी । फौजी छावनी के पास का एरिया बार्डर एरिया था जहाँ से थोड़ी दूर पर ही चीन की सीमा है। एक फौजी से लेखिका मधु ने पूछा कि इतनी कड़कड़ाती सर्दी में भी आप ड्यूटी पर हो | इस सर्दी में आपको बहुत तकलीफ होती होगी |तब फौजी ने उदास भाव से और अपने चेहरे से जैसे हँसते हुए कहा – “आप लोग चैन की नींद सो सकें इसीलिए तो हम सब यहाँ पहरा दे रहे हैं।" उसके इस कथन से पता चलता है कि जहाँ तापमान माइनस पंद्रह डिग्री रहता है वहाँ फौजी लोग कितने कष्ट सहकर अपने कर्तव्य के प्रति सचेत रहते हैं। वे देश के सच्चे जवान हैं और देश वासियों की सुरक्षा के लिए कठिन परिस्थितियों में भी निरतंर सजग रहते हैं।

Section D

19. 75, कैलाशपुरी, नई दिल्ली
दिनांक: 17 जनवरी, 2019
प्रिय अजय
प्रसन्न रहो
तुम्हारा पत्र मिला। यह जानकर चिन्तित होना स्वाभाविक था कि अभी भी तुम्हारा स्वास्थ्य पूरी तरह ठीक नहीं हुआ है। मुझे तुम्हारे मित्र पंकज से पता चला कि तुम्हारी दिनचर्या बहुत गड़बड़ है , तुम सुबह देर से उठते हो तथा तुमने व्यायाम करना भी छोड़ दिया है जिसके कारण न तो तुम्हें ठीक से भूख लगती है और न ही खाया-पीया ठीक से हजम होता है।
प्रिय भाई नियमित दिनचर्या और व्यायाम बहुत आवश्यक है । व्यायाम और योग करने से शरीर में रक्त का संचार बढ़ता है। माँसपेशियाँ सुदृढ़ होती हैं तथा आलस्य दूर हो जाता है। व्यायाम तथा योग करने वाले छात्रों का मन पढ़ाई में खूब लगता है तथा उनकी स्मरणशक्ति भी बढ़ती है। तुमने पढ़ा ही होगा- 'स्वस्थ शरीर में ही स्वस्थ मस्तिष्क का वास होता है।' अतः मेरी सलाह मानो और नियमित योग तथा व्यायाम करने का अभ्यास डालो । तुम्हें स्वयं ही अनुभव होगा

कि तुम स्वस्थ हो रहे हो और उसके सकारात्मक परिणाम दिखाई देंगे।
मुझे पूर्ण विश्वास है कि तुम मेरी सलाह पर तुरन्त अमल शुरू कर दोगे | निश्चय ही इससे तुम्हारे व्यक्तित्व और पढ़ाई दोनों में सफलता अवश्य मिलेगी और तुम्हें प्रशंसा भी मिलेगी। उसे पत्र द्वारा मुझे सूचित करना नहीं भूलना।
तुम्हारा
विजय

Solution

Class 10 - Mathematics

PERIODIC TEST - III 2019-2020

Section A

1. **(a)** $a = bq + r, 0 \leqslant r < b$
   Explanation: Euclid's Division Lemma states that for given positive integer a and b, there exist unique integers q and r satisfying a = bq + r; $0 \leqslant r < b$.

2. **(a)** – 2
   Explanation: Let α, β, γ are the zeroes of the given polynomial.
   Since $\alpha + \beta + \alpha\beta$
   = $\frac{-b}{a} + \frac{c}{a}$ = $\frac{-b+c}{a}$
   $\therefore \alpha + \beta + \alpha\beta$ = $\frac{-5+1}{2}$
   =$\frac{-4}{2}$
   = - 2

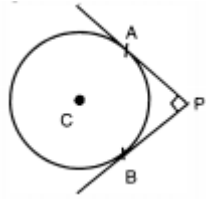
3. **(a)** $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$
   Explanation: The system of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ has a unique solution if $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$

4. **(a)** 20
   Explanation: Given: $n(n+1) = 420$
   $\Rightarrow n^2 + n = 420$
   $\Rightarrow n^2 + n - 420 = 0$
   $\Rightarrow n^2 + 21n - 20n - 420 = 0$
   $\Rightarrow n(n+21) - 20(n+21) = 0$
   $\Rightarrow (n-20)(n+21) = 0$
   $\Rightarrow n - 20 = 0, n + 21 = 0$
   $\Rightarrow n = 20$ and $n = -21$ [$n = -21$ is not possible]
   Therefore, the value of n is 20.

5. **(b)** 33
   Explanation: Given: $a_2 = 13$
   $\Rightarrow a + (2-1)d = 13$
   $\Rightarrow a + d = 13$ .....(i)
   And $a_5 = 25$
   $\Rightarrow a + (5-1)d = 25$
   $\Rightarrow a + 4d = 25$ .....(ii)
   Solving eq. (i) and (ii),
   we get $a = 9$ and $d = 4$
   $\therefore a_7 = a + (7-1)d$
   = $9 + (7-1) \times 4$
   = 9+6×4
   = 9 + 24 = 33

6. Given: AB = 5.6 cm, AD = 1.4 cm, AC = 7.2 cm and AE = 1.8 cm
   $\therefore \quad \frac{AD}{AB} = \frac{1.4}{5.6} = \frac{1}{4}$ and $\frac{AE}{AC} = \frac{1.8}{7.2} = \frac{1}{4}$
   $\Rightarrow \quad \frac{AD}{AB} = \frac{AE}{AC}$
   Hence, by the converse of Thales' theorem, $DE \| BC$.

7. Since 18, a, b, and - 3 are in A.P., Then
   a - 18 = - 3 - b
   or, a + b = - 3 + 18
   or, a + b = 15

8. We consider,
   LHS= $\cos ec\theta\sqrt{1-\cos^2\theta}$
   $= \cos ec\theta\sqrt{\sin^2\theta}\left[\because 1-\cos^2\theta = \sin^2\theta\right]$
   $= \cos ec\theta \sin\theta$
   $= \frac{1}{\sin\theta}\sin\theta\left[\because \cos ec\,\theta = \frac{1}{\sin\theta}\right]$
   = 1
   = RHS
   Hence identity is proved
9. 

   Construction: Join AC and BC
   Now, $AC \perp AP\ and\ CB \perp BP$
   $\angle APB = 90^0$
   Therefore, CAPB will be a square
   CA = AP = PB = BC = 4 cm
   ∴ Length of tangent = 4 cm.
10. Let the side of square = x units
    Diagonal of the square = $\sqrt{2}x$ units
    Diameter of the incircle = x units
    Diameter of the circumcircle = $\sqrt{2}x$ units
    $\frac{\text{Area of incircle}}{\text{Area of circumcircle}} = \frac{\pi\left(\frac{x}{2}\right)^2}{\pi\left(\frac{\sqrt{2}x}{2}\right)^2} = \frac{1}{2}$
    Ratio = 1 : 2

Section B

11. We have, $4x^2 - 4ax + (a^2 - b^2) = 0$
    $\implies 4x^2 - [2(a+b)\,x + 2\,(a-b)\,x] + (a^2 - b^2) = 0$
    $\implies 4x^2 - 2(a+b)x - 2(a-b)x + (a^2 - b^2) = 0$
    $\implies 2x\,(2x - a - b) - (a-b)\,(2x - a - b) = 0$
    $\implies (2x - a - b)\,(2x - a + b) = 0$
    Either 2x = a + b or 2x = a - b
    $\implies x = \frac{a+b}{2}, \frac{a-b}{2}$
    Hence, $x = \frac{a+b}{2}, \frac{a-b}{2}$ are the required solutions.
12. According to question we are given that the sum of three numbers of an AP is 27 and their product is 405.
    Suppose three numbers in AP are a - d, a and a + d.
    ∴ (a - d) + a + (a + d) = 27
    ⇒ 3a = 27
    ⇒ a = 9
    Also, (a - d)(a)(a + d) = 405
    ⇒ (9 - d)(9)(9 + d) = 405
    ⇒ (9 - d)(9 + d) = 45
    ⇒ $81 - d^2 = 45$
    ⇒ $d^2 = 36$
    ⇒ d = 6, -6
    When d = 6, numbers are 3, 9, 15
    When d = -6, numbers are 15, 9, 3.

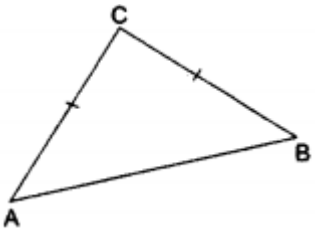
OR

Let (x.y) be the coordinates of P, Then

$x = \frac{2\times5+3\times2}{2+3} = \frac{10+6}{5} = \frac{16}{5}$

$y = \frac{2\times2+3\times(-5)}{2+3} = \frac{4-15}{5} = \frac{-11}{5}$

Thus the coordinates of P are (16/5,-11/5) and so it lies in the fourth quadrant.

13. 

According to question it is given that in $\triangle ABC$

AC =BC .....(i)

Now, $AB^2 = 2AC^2$

$\Rightarrow AB^2 = AC^2 + AC^2$

$\Rightarrow AB^2 = AC^2 + BC^2$ [using (i)]

$\Rightarrow \quad \angle C = 90^\circ$ [using converse of Pythagoras' theorem]

Therefore,$\triangle ABC$ is a right triangle.

Section C

14. Given, $p = a^2b^3$

and $q = a^3b$

HCF(p,q) = a^2b

LCM(p, q) = a^3b^3

$pq = a^2b^3 \times a^3b = a^5b^4 \ ---------- (1)$

$LCM(p,q) \times HCF(p,q) = a^3b^3 \times a^2b = a^5b^4 ----(2)$

$From\ equation\ (1)\ and\ (2)\ We\ get$

$LCM(p,q) \times HCF(p,q) \ = \ pq$

15. The given system of equations is

$2x + 3y = 8$

$x - 2y = -3$

Now,

$2x + 3y = 8$

$\Rightarrow 2x = 8 - 3y$

$\Rightarrow x = \frac{8-3y}{2}$

When $y = 2$, we have

$x = \frac{8-3\times2}{2} = 1$

When y = 4, we have

$x = \frac{8-3\times4}{2} = -2$

x	1	-2
y	2	4

We have,

$x - 2y = -3$

$\Rightarrow x = 2y - 3$

When y = 0, we have

x = 2 × 0 - 3 = -3

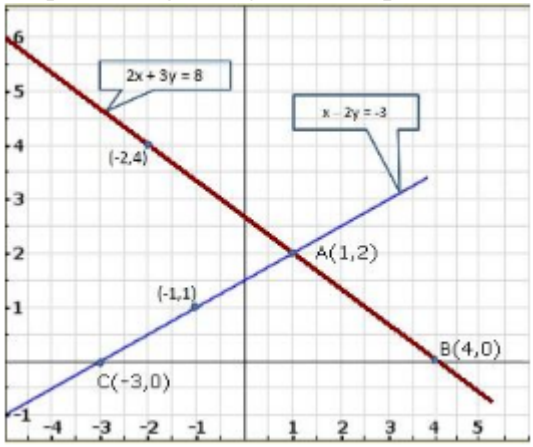
When y = 1, we have

x = 2 × 1 - 3 = -1

Thus, we have the following table;

x	-3	-1
y	0	1

Graph of the given system of equations:

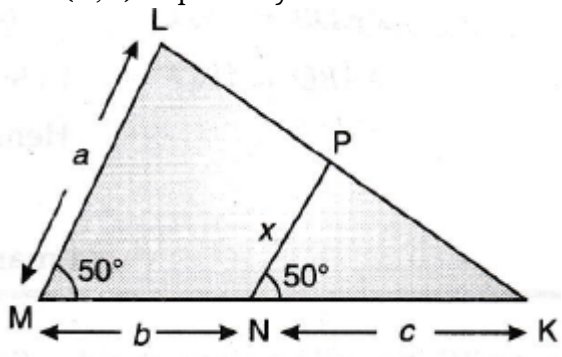


Clearly, the lines intersect at A(1, 2).

Hence, x = 1, y= 2 is the solution of the given system of equations.

We also observe that the lines represented by the equations 2x + 3y = 8 and x - 2y = -3 meet x-axis at B(4, 0) and C(-3, 0) respectively.

16.



Consider △LMK and △PNK,

∠M = ∠N = 50^o (Given)

∠K =∠K (Common)

∴ △LMK ∼ △PNK (AA Similarity)

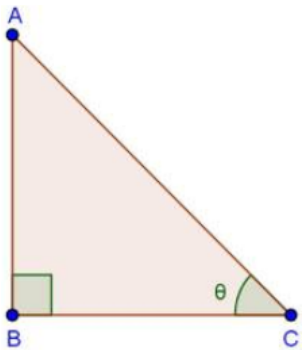
$\Rightarrow \frac{LM}{PN} = \frac{KM}{KN}$

$\Rightarrow \frac{a}{x} = \frac{b+c}{c}$

$\Rightarrow \frac{x}{a} = \frac{c}{b+c}$

$\Rightarrow$ x = $\frac{ac}{b+c}$

OR



Given $\tan\theta = \frac{1}{\sqrt{7}} = \frac{AB}{BC}$

Let AB = 1K

and, $BC = \sqrt{7}K$

In ΔABC, by Pythagoras theorem

AC^2 = AB^2 + BC^2

$AC^2 = (1K)^2 + \left(\sqrt{7}K\right)^2$

AC^2 = K^2 + 7K^2

$AC^2 = 8K^2$

$AC = \sqrt{8K^2} = 2\sqrt{2}K$

$\therefore \cos ec\theta = \frac{AC}{AB} = \frac{2\sqrt{2}K}{1K} = 2\sqrt{2}$

$\sec\theta = \frac{AC}{BC} = \frac{2\sqrt{2}K}{\sqrt{7}K} = \frac{2\sqrt{2}}{\sqrt{7}}$

$\therefore LHS = \frac{\cos ec^2\theta - \sec^2\theta}{\cos ec^2\theta + \sec^2\theta}$

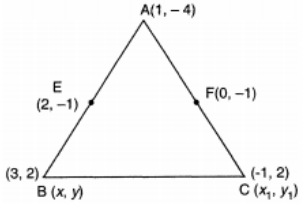
$= \frac{(2\sqrt{2})^2 - \left(\frac{2\sqrt{2}}{\sqrt{7}}\right)^2}{(2\sqrt{2})^2 + \left(\frac{2\sqrt{2}}{7}\right)^2}$

$= \frac{8 - \frac{8}{7}}{8 + \frac{8}{7}}$

$= \frac{\frac{56-8}{7}}{\frac{56+8}{7}}$

$= \frac{\frac{48}{7}}{\frac{64}{7}}$

$= \frac{48}{7} \times \frac{7}{64} = \frac{3}{4} = RHS$

17. 

Let E be the midpoint of AB.

$\therefore \quad \frac{x+1}{2} = 2$ or x = 3

and $\frac{y+(-4)}{2} = -1$ or, y = 2

or, B(3, 2)

Let F be the mid-point of AC.Then,

$0 = \frac{x_1+1}{2}$ or $x_1 = -1$

and $\frac{y_1+(-4)}{2}$ = -1 or, y_1 = 2

or, C= (-1, 2)

Now the co-ordinates are A(1, - 4), B(3,2), C (-1,2)

Area of triangle

$= \frac{1}{2}[x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)]$

$= \frac{1}{2}[1(2-2) + 3(2+4) - 1(-4-2)]$

$= \frac{1}{2}[0 + 18 + 6]$

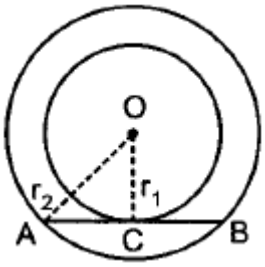
= 12 sq units.

OR

Given,

$r_1 = 5cm$,

$AB = 24cm$



$\because$ AB is tangent to circle C(0,r_1) at C

$\therefore$ OC $\perp$ AB

In circle C(0,r_2), AB is a chord and

$OC \perp AB$

$\therefore$ AC = BC

In right $\triangle$OCA,

$OC^2 + AC^2 = AO^2$

$\Rightarrow\ 5^2 + (12)^2 = (r_2)^2$

$\Rightarrow\ 25 + 144 = (r_2)^2$

$\Rightarrow (r_2)^2 = 169$

r_2 = 13 cm

Section D

18. As x = 2 and -5 are the zeroes of $x^4 + 6x^3 + x^2 - 24x - 20$.

    $\Rightarrow$ (x - 2) and (x + 5) are two factors of $x^4 + 6x^3 + x^2 - 24x - 20$

    $\Rightarrow$ product of factors is (x - 2) (x + 5) = $x^2 + 3x - 10$

    Dividing $x^4 + 6x^3 + x^2 - 24x - 20$ by $x^2 + 3x - 10$

$$
\begin{array}{r}
x^2 + 3x + 2 \\
x^2 + 3x - 10 \overline{)\ x^4 + 6x^3 + x^2 - 24x - 20} \\
x^4 + 3x^3 - 10x^2 \\
\hline
3x^3 + 11x^2 - 24x - 20 \\
3x^3 + 9x^2 - 30x \\
\hline
2x^2 + 6x - 20 \\
2x^2 + 6x - 20 \\
\hline
0
\end{array}
$$

    Dividend = divisor $\times$ quotient + remainder

    $\Rightarrow x^4 + 6x^3 + x^2 - 24x - 20 = (x^2 + 3x - 10)(x^2 + 3x + 2)$

    = (x - 2) (x + 5) (x + 2) (x + 1)

    Hence, other two zeroes are -2 and -1.

19. Since the production increases uniformly by a fixed number every year. Therefore, the sequence formed by the production in different years is an A.P. Let a be the first term and d be the common difference of the A.P. formed i.e., 'a' denotes the production in the first year and d denotes the number of units by which the production increases every year.

    We have,a_3 = 600 and a_7 = 700 $\Rightarrow$ a + 2d = 600 and a + 6d = 700. Solving these equations, we get;a = 550 and d = 25.

    1. We have, a = 550

       $\therefore$ Production in the first year is of 550 TV sets.
    2. The production in the 10th term is given by a_{10}.

       Therefore, production in the 10th year = a_{10} = a + 9d = 550 + 9 $\times$ 25 = 775. So, production in 10th year is of 775 TV sets.
    3. Total production in 7 years

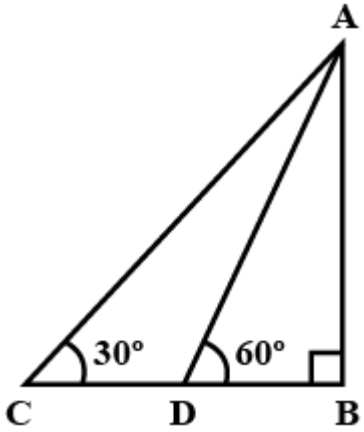
       = Sum of 7 terms of the A.P. with first term a (= 550) and common difference d (= 25).

       $= \frac{7}{2}\{2 \times 550 + (7 - 1) \times 25\}$

       $= \frac{7}{2}(1100 + 150) = 4375.$

OR

According to the question,



Height of tower (AB)= 50 m

Let C and D be the positions of 2 cars.

In ΔADB

$\tan 60^\circ = \frac{AB}{BD}$

$\Rightarrow \sqrt{3} = \frac{50}{BD}$

$\Rightarrow BD = \frac{50}{\sqrt{3}}m$

In ΔABC

$\tan 30^\circ = \frac{AB}{CB}$

$\Rightarrow \frac{1}{\sqrt{3}} = \frac{50}{CB}$

$\Rightarrow CB = 50\sqrt{3}m$

$\therefore$ Distance between two cars $= CD = CB - BD$

$= 50\sqrt{3} - \frac{50}{\sqrt{3}}$

$= \frac{150-50}{\sqrt{3}}$

$= \frac{100}{\sqrt{3}} = \frac{100\sqrt{3}}{3} = \frac{100\times 1.73}{3} = 57.66m$

Distance of first car from tower $= DB$

$= 50\sqrt{3}$

$= 50 \times 1.73$

= 86.5m

Distance of second car from tower $= CB$

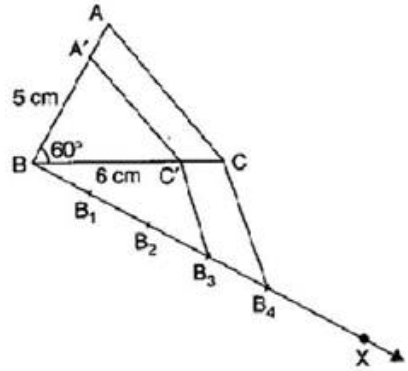
$= \frac{50}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}}$

$= \frac{50\sqrt{3}}{3}$

$= \frac{50\times 1.73}{3}$

$= 28.83m$

20.



To construct: To construct a triangle ABC with side BC = 6 cm, AB = 5 cm and $\angle ABC = 60^\circ$ then a triangle similar to it whose sides are $\frac{3}{4}$ of the corresponding sides of the first triangle ABC.

Steps of construction:

i. Draw a triangle ABC with side BC = 6 cm, AB = 5 cm and $\angle ABC = 60^\circ$.

ii. From any ray BX, making an acute angle with BC on the side opposite to the vertex A.

iii. Locate 4 points B_1, B_2, B_3 and B_4 on BX such that $BB_1 = B_1B_2 = B_2B_3 = B_3B_4$.

iv. Join B_4 C and draw a line through the point B_3, draw a line parallel to B_4 C intersecting BC at the point C'.

v. Draw a line through C' parallel to the line CA to intersect BA at A'.
Then, A'BC' is the required triangle.

Justification :

$\because B_4C \| B_3C'$ [By construction]

$\therefore \frac{BB_3}{BB_4} = \frac{BC'}{BC}$ [By Basic Proportionality Theorem]

But $\frac{BB_3}{BB_4} = \frac{3}{4}$ [By construction]

Therefore, $\frac{BC'}{BC} = \frac{3}{4}$ ..... (i)

$\because$ CA || C'A' [By construction]

$\therefore \triangle BC'A \sim \triangle BCA$ [AA similarity]

$\therefore \frac{AB'}{AB} = \frac{A'C'}{AC} = \frac{BC'}{BC} = \frac{3}{4}$ [From eq. (i)]

Solution

Class 10 - Science

periodic test III(2019-20)

Section A

1. **(d)** decomposition reaction
   Explanation: Ferrous sulphate crystals contain water molecules ($FeSO_4$. $7H_2O$). On heating, ferrous sulphate crystals lose water and anhydrous ferrous sulphate ($FeSO_4$) is formed. So their colour changes from light green to white.
   On further heating, anhydrous ferrous sulphate decomposes to form ferric oxide (Fe_2O_3), sulphur dioxide (SO_2) and sulphur trioxide (SO_3). So, the gas emitted smells like burning sulphur.
   In this reaction, the single reactant $FeSO_4$ decomposes to form three different products. So, the reaction is a decomposition reaction.
2. **(d)** Addition reaction
   Explanation:
   The given reaction is an example of addition reaction. In this reaction, a bromine atom **adds** to each carbon atom of ethene. The double bond in ethene is broken and the hydrocarbon becomes saturated.
3. **(c)** Statement A is true, B is false
   Explanation: Statement1 is true because- Tendu patta (Diospyros melanoxylon) leaves are used for wrapping the tobacco and making " beedis " or Indian cigar
   Statement 2 is false because Amrita Devi and Bishnois sacrificed their life saving the Khejri trees.
4. **(a)** 5 Ω
   Explanation: V = 0.8 V, I = 160 mA = 160 × 10^{-3} A
   $R = \frac{V}{I} = \frac{0.8}{160 \times 10^{-3}} = 5\Omega$
5. **(a)** Straight
   Explanation: The magnetic field lines inside the solenoid are in the form of parallel straight lines. The field lines inside the solenoid are in the form of straight lines which indicates that the magnetic field is the same at all points inside the solenoid.
6. The adrenaline hormone prepare our body to function at maximum efficiency during emergency situations
7. Abscisic acid is the hormone which inhibits growth. It also promotes dormancy in seeds.
8. Voltmeter is always connected in parallel to the ends of the resistor across which the potential difference is required to be measured.
9. Refraction can change path of light with change of medium.
10. Since convex mirror always forms a virtual and erect image irrespective of the position of the object in front of the mirror. So the given spherical mirror is convex mirror.

Section B

11. **Short circuiting :** If sometimes a live wire touches neutral wire or earth wire, a large current flows through the circuit due to almost zero resistance of the circuit. This is called short-circuiting. To save the circuit from damage feared due to over-loading a short-circuiting, a fuse of proper rating is put in each circuit.
    Over loading : The supply wires as well the wires used in household wiring has a specific rating. The rating of 15 A means that if a current upto 15 A is passed through circuit, there is no likely damaged feared to the circuit. But if current more than maximum allowed limit is passed, there may be excessive heating of the wires and it may damage the wiring due to excessive heating.

    OR

    The brushes are the two flexible metal plates or carbon rods which are so fixed that they constantly touch the revolving rings and help in conduction of current.
12. Bitter taste is generally associated with substances which are basic in nature. Therefore, compound X could be basic in nature.
    Compound X is also a component of washing powder, hence it could be sodium carbonate. Washing powder is sodium carbonate decahydrate.

Since compound X is basic and a carbonate, it will react with dil. HCl to produce brisk effervescence of carbon dioxide gas (a colourless and odourless gas). Carbon dioxide turns lime water milky due to the formation of insoluble calcium carbonate. When excess of carbon dioxide gas is passed, the milkiness disappears due to formation of soluble calcium bicarbonate.
Hence, X is sodium carbonate; Y is carbon dioxide; Z is calcium carbonate, and P is calcium bicarbonate.

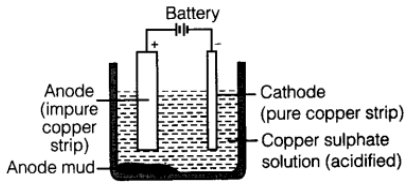
$\underset{X}{Na_2CO_3}$ +2HCl(aq) $\longrightarrow$ 2NaCl(aq) + $\underset{Y}{H_2O}$(l) + CO_2(g)

$\underset{(Limewater)}{Ca(OH_2)(aq)} + CO_2 \rightarrow \underset{(White\ precipitate)}{\underset{Z}{CaCO_3(s)}} + H_2O(l)$

$CaCO_3(s) + H_2O(1) + CO_{2(g)} \rightarrow \underset{(Solubleinwater)}{\underset{P}{Ca(HCO_3)_2(aq)}}$

13. i. Graphite in an allotrope of carbon which is a good conductor of electricity because of presence of free electron and it is cheap, insoluble in water, do not react with acids and bases (non-corrosive). Due to these properties, it is used in making electrodes.
    ii. Polyvinyl Chloride (PVC) or a rubber-like material are insulators means they are bad conductors of electricity and hence do not allow electrons to flow. Hence, these are used in coating the electrical wires.
    iii. Metal alloys are used for making bells and strings of musical instruments because they are sonorous.

OR



In electrolytic process, the impure metal is made the anode (negatively charged electrode) and a thin strip of pure metal is made the cathode (positively charged electrode). A solution of the metal salt is used as an electrolyte. On passing the current through the electrolyte, the pure metal from the anode goes into the electrolyte solution and takes up electron and gets reduced to metal and deposited at cathode.

At cathode Cu^{2+} +2e^- $\rightarrow$ Cu (deposited)
At anode $\underset{(Impure\ metal)}{Cu\ (s)} \rightarrow \underset{(Dissolved)}{Cu^{2+}\ (aq)} + 2e-$

14. refer NCERT X SCIENCE lesson 6

15. i. The process depicts binary fission, a method of asexual reproduction. Involving single parent only. Where the parent cell grow and divide into 2 daughter cell.
    ii. Binary fission is observed in unicellular organisms or multicellular organism with simple body design, such as Amoeba, Euglena and Paramecium, etc.
    iii. Differences between fission and fragmentation are:

Fission	Fragmentation
It is the division of parent body into two identical daughter cells of similar size.	It is the division of parent body into two or more small fragments. Which regrow into new organism.
It occurs in unicellular organisms or multicellular organisms with simple body organisation.	It occurs only in multicellular organisms with complex cellular organisations.
e.g. Amoeba, plasmodium.	e.g. Spirogra.

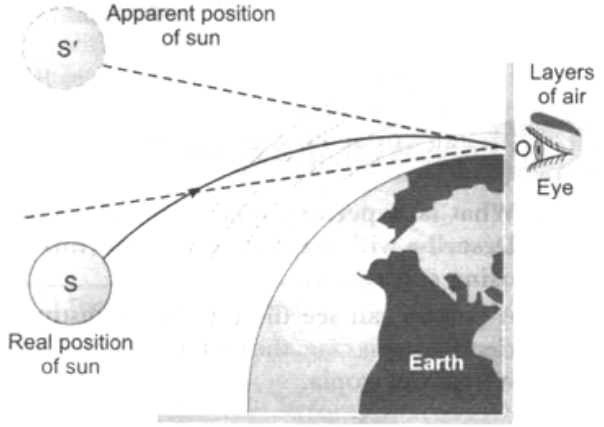
OR

HIV stands for human Immunodeficiency Virus.
Yes, AIDS is an infectious disease.
Four modes of spreading AIDS are as follows:

i. By having sexual contact with an infected person.
ii. By the transfusion of blood from an infected person.
iii. Through infected needles used for injection.
iv. Through the placenta from the mother to child during pregnancy.

Section C

16. The layers of air nearer to earth are denser than those above it. At sunrise and sunset when the sun is below the horizon, the light rays starting from sun are falls on these layers. They pass through successively denser layers and thus get bent more and more towards the normal until they fall upon the eye of the observer O. To the observer O, these rays appear to come from S' which is above horizon. It is for this reason that the sun is visible to us a little before it rises above the horizon and so also can be seen for more time as it sets below the horizon. The difference of time is about two minutes each for early rise and late setting of the Sun.



OR

Myopia: The defect of an eye in which it cannot see the distant objects clearly is called myopia. A person with myopia can see nearby objects clearly.

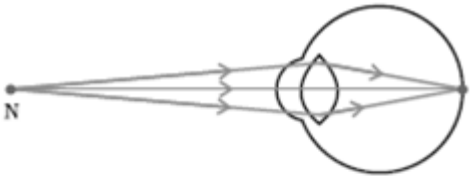
Hypermetropia: Hypermetropia is also known as long-sightedness. In this defect, a person can see the distant objects clearly but cannot see the nearby objects clearly.

Causes of Hypermetropia:

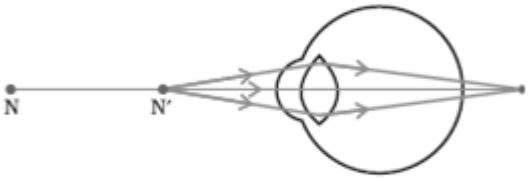
i. The focal length of the eye lens is too long.

ii. The eyeball has become too small.

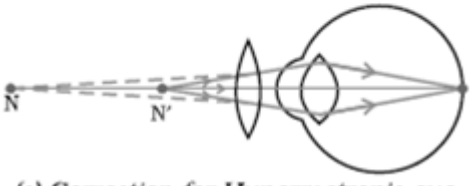
In hypermetropia, the image of a distant object is formed behind the retina and not on the retina. The defect is corrected by using the Convex lens of suitable power so that the lens will bring the image back on to the retina. The ray diagram of hypermetropia eye are as follows:



(a) Near point of a Hypermetropic eye



(b) Hypermetropic eye



(c) Correction for Hypermetropic eye

17. i. a. Ketone (R-CO-R)
    b. Aldehyde (R-CHO)

    ii. Distinguish between ethanol and ethanoic acid:

    a. Ethanol does not react with metal carbonate while ethanoic acid reacts with metal carbonates to form salt, water and CO_2.

    e.g. $2CH_3COOH + Na_2CO_3 \rightarrow 2CH_3COONa + CO_2 + H_2O$

b. Ethanol does not react with NaOH while ethanoic acid reacts with NaOH to form sodium ethanoate and water
e.g. $CH_3COOH+NaOH \rightarrow CH_3COONa + H_2O$

c. Ethanol can undrergo oxidation to produce aldehyde and futher it can oxidize to produce acid.

iii. saturated hydrocarbon is obtained as hydrogen gas passed through unsaturated hydrocarbon. The reaction is an example of addition reaction better known by the name of hydrogenation reaction.

$$\underset{\substack{Ethene\\(Unsaturated\\hydrocarbon)}}{CH_2=CH_2} + H_2 \xrightarrow[Catalyst]{Ni} \underset{\substack{Ethane\\(Saturated\\hydrocarbon)}}{CH_3-CH_3}$$

18. Humans have, for more than two thousand years, cultivated wild cabbage. They have selected various character artificially rather than selecting naturally, which led to development of various species. It has resulted in generation of the following vegetables due to some specific characters such as:
    i. Cabbage selected for short distance between leaves.
    ii. Broccoli selected for arrested flower development and thick stem.
    iii. Cauliflower selected for sterile flowers forming a large flower.
    iv. Kohlrabi selected for a swollen edible stem.
    v. Kale selected for large leaves.

Solution

Class 10 - Social Science

PERIODIC TEST - III 2019-2020

Section A

1. On 6th April, Mahatma Gandhi ceremonially violated the Salt Act, manufacturing salt by boiling sea water. This incident marked the beginning of the Civil Disobedience Movement.
2. The G -77 is a coalition of developing countries to demand a New International Economic Order (NIEO). In order to catch up with the development in advanced industrial countries, the developing nations organised themselves as a group - the Group of 77 or G-77 - to demand a New International Economic Order (NIEO).
3. Khadians and Johads. In arid and semi-arid regions, agricultural fields were converted into rainfed storage structures that allowed the water to stand and moisten the soil like the 'khadins' in Jaisalmer and 'Johads' in other parts of Rajasthan.
4. Tea and coffee are two important beverage crops grown in India. South Indian states are the major producer of Coffees in India with Karnataka 53%, Kerala 28%, Tamil Nadu 11% and remaining from the other states includes Andhra Pradesh, Orissa, Assam and Tripura. Hilly area and good monsoon in this region make it the best place for important varieties of coffee and tea plantation.
5. Zinc and lead are the two minerals are found in veins and lodes.
6. The Union Law shall prevail in case of a clash between the laws made by the centre and state on a subject in the concurrent list.
7. Catholics
8. Good hospitals, educational institutions and shopping malls are available mostly in the posh areas whereas slums like dirty, old colonies in the outskirts of a city or town are the best example of urban inequality.
9. A deposit with a bank that can be withdrawn whenever the depositor wants to do so is known as a demand deposit. Demand Deposits also known as Current Account deposits provide the depositor with the liberty to withdraw money at any point of time. That is, the account holder of the demand deposits can demand these deposits at any point of time as per their discretion and convenience. Such deposits do not offer any rate of interest.

Section B

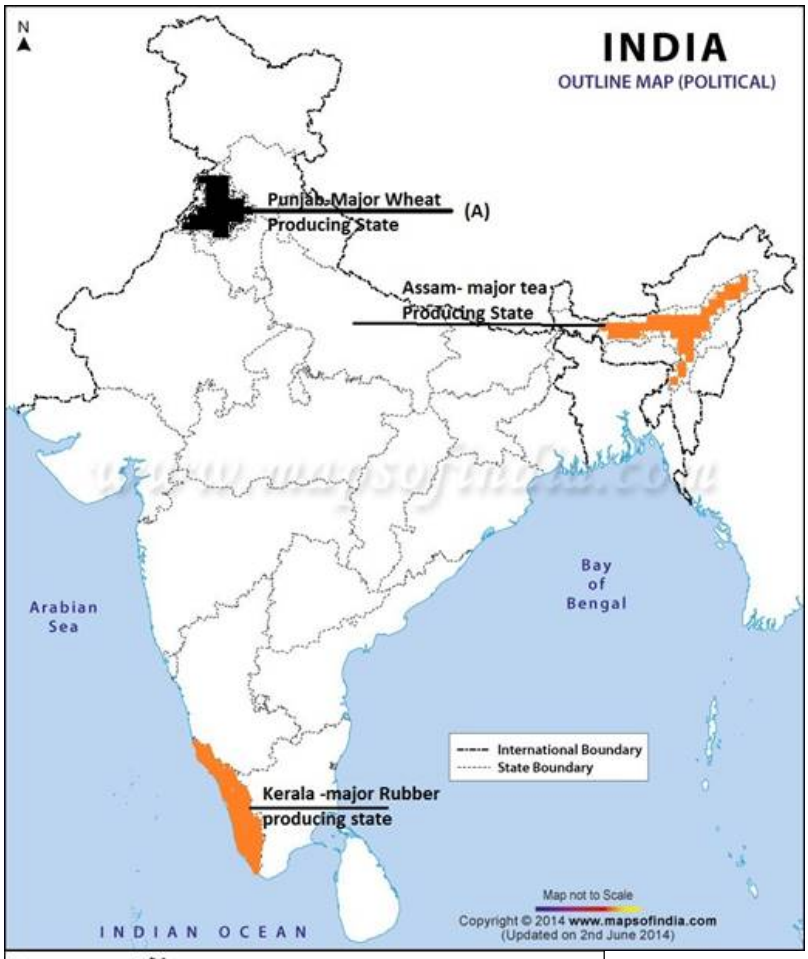
10. The economic effects of the non-cooperation movement were very significant as mentioned below:
    i. Foreign goods were boycotted, liquor shops picked and foreign clothes were burnt in huge bonfires.
    ii. The import of foreign cloth halved between 1921 and 1922 and its value dropped from Rs.102 crores to Rs.57 crores.
    iii. In many areas, merchants and traders abstained from trading in foreign goods or finance foreign trade.
    iv. As the boycott movement spread, people used only Indian clothes and began to discard foreign clothes.
    v. As a result, the production of Indian textiles and handlooms went up.
11. 1. Print created the possibility of wide circulation of ideas, and introduced a new world of debate and discussion.
    2. Even those who disagreed with established authorities could now print and circulate their ideas.
    3. Through the printed message, they could persuade people to think differently and move them to action.
    4. There was a common conviction that books were a means of spreading progress and enlightenment.
    5. Many believed that books could change the world, liberate society from despotism and tyranny and herald a time when reason and intellect would rule.
    6. Mercier, a novelist was so convinced of the power of print in bringing enlightenment and destroying the basis of despotisms that he proclaimed 'Tremble, therefore, tyrants of the world! Tremble before the virtual writer'.
12. Nationalist Congress Party is the recently formed national party after the split in congress in 1999.
    A. **<u>Objectives of NCP</u>**: This party advocates **democracy, Gandhian secularism, equality, justice and federalism**. Wants that **high offices** in government be confined to **natural born citizens** of the country.
    B. **<u>Present Status</u>**: A **major party in Maharashtra** and has a significant presence in **Meghalaya, Manipur and Assam**. A coalition partner in the state of Maharashtra in alliance with the Congress since 2004, a **member of the United Progressive Alliance**.

13. a. Ravi had started his own company producing capacitors in 1992. Within three years he was able to expand production and had 20 workers working under him.
    b. His struggle to run his company started when the government removed restrictions on import on capacitors as per its agreement at WTO in 2001.
    c. Now his main clients start buying capacitors from MNCs because companies are selling capacitors at very low price.
    d. Ravi Now produces less than half the capacitors that he produced in the year 2000 and has only seven workers working for him.

Section C

14. At present, about 130 million hectares of land is degraded in India. Continuous use of land over a prolonged period of time without taking necessary steps to conserve and manage it has resulted in land degradation. Four human activities responsible for land degradation in India are as follows:
    i. Deforestation: Deforestation leads to the erosion of land and desertification as a result of which land becomes waste or less fertile.
    ii. Industries: Mineral processing generates a huge quantity of mineral dust in the atmosphere which ultimately settles down on the land. It retards the process of infiltration of water into the soil, thus, degrading the land.
    iii. Overgrazing: The increase in livestock population results in over-exploitation of the pastures. Due to this, there is a lack of vegetation cover and which leads to land degradation.
    iv. Excessive irrigation: Excessive irrigation leads to water-logging and consequentially salinisation and alkalinisation of soil. This reduces the fertility of the soil.
15. A. In a democracy power is shared among the different organs of the government such as Legislature, Executive and Judiciary. This is also called as the horizontal distribution of power sharing.
    B. Legislature is lawmaking body, Executive is law implementing body and Judiciary is dispute solving body of the Government.
    C. Because it also allows different organs of government placed at the same level to exercise different power.
    D. Under this kind of power sharing arrangements, no organ of the government can exercise unlimited powers.
    E. Each organ has its own power and checks the powers of other.
    F. This results in the in a balance of power among various institutions.
    G. It involves division of powers from higher to lower levels of government.
    H. It allows a general government for the entire country and governments at the regional level.
16. Sumit is working in the primary sector while Rahul is working in the tertiary sector.
    Sumit is a landless agricultural labour. He is in the primary sector which is largely unorganised in India. There are no rules and regulations and the rich farmer may not be giving proper wages to Sumit. Also, there is no provision of overtime payment, paid holidays or paid leave. He can be asked to quit his job at any time without any reason. His will get daily wages for their work, which is comparatively less than the pay prescribed by the government. Also, there are no provisions for overtime.
    Rahul working as a lawyer is in a better position than Sumit. He is a professional and works in the organised sector. He can also be self-employed. He will get paid leaves, holidays, provident fund and gratuity etc. He will get additional remuneration for overtime. In both cases, he will earn better than Sumit. He can work both in the private and public sector. He has more and better choices for earning. He is engaged in the tertiary sector which is the highest contributing section in India's Gross Domestic Product.
17. .

a)


N
INDIA
OUTLINE MAP (POLITICAL)
Punjab- Major Wheat Producing State
(A)
Assam- major tea Producing State
Arabian Sea
Bay of Bengal
International Boundary
State Boundary
Kerala -major Rubber producing state
Map not to Scale
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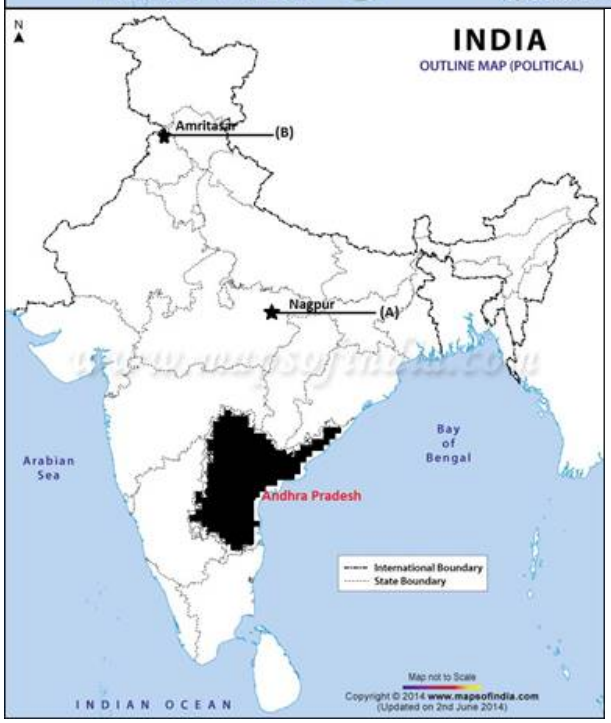
(Updated on 2nd June 2014)
INDIAN OCEAN

b)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INDIA
OUTLINE MAP (POLITICAL)
Amritsar
(B)
Nagpur
(A)
Arabian Sea
Bay of Bengal
Andhra Pradesh
International Boundary
State Boundary
Map not to Scale
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INDIAN OCEAN