GENERAL INSTRUCTIONS :
All questions are compulsory. However, in some questions internal choices have been given.

SECTION – A (READING)

Q.1. Read the passage and answer the questions that follow. (8)

1. Scientists who study the rocks, minerals, landforms, and the history of the earth can tell what kind of plants and animals lived on the earth a long time ago. These scientists are called geologists. One way that they are able to do this is by the study of fossils. Fossils may be the actual remains of plants or animals, impressions of them in rock, or the tracks of animals as they walked or crawled.

2. Most fossils are formed in the waters covering the continental shelves, in warm, shallow, inland seas, and in large swamps that covered large parts of the land in post geologic time. When the animals of these waters die, their remains are deposited on the floor of the waterbody where the fleshy part of the animals decay. The skeletal portion of the body is partially replaced by minerals and other sediments. If this takes place in just the right manner, a fossil is formed. Since rock sediments are involved in the formation of fossils, it is not surprising that one finds many fossils in sedimentary rock layers. Plant fossils are found in the areas that were once swamps. There are four principal kinds of fossils: original remains, replaced remains, moulds and casts, and impressions.

Answer any eight of the following questions briefly. (1x8)

1. What can geologists who study rocks, minerals, and the history of earth tell?
2. Who are called geologists ?
3. What happens to the remains when animals living in warm and shallow water die?
4. Why are many fossils found in sedimentary rock layers ?
5. What enables the scientists to get information about the plants and animals that lived on the earth a long time ago?
6. Where are most fossils formed ?
7. How do dead animals contribute to the forming of minerals ?
8. What are the four principal kinds of fossils ?
9. Find the word in paragraph - 2 which means the same as 'decomposes'.

SECTION B – (WRITING AND GRAMMAR)

2. Cleanliness is important for a peaceful mind and a sound health. Mahatma Gandhi rightly said that " Cleanliness is next to Godliness". Based on this fact alongwith inventing your own ideas write an article on 'swachh Bharat Abhiyaan' or 'Clean India Campaign'.   10

SECTION C – (Grammar)

3. Fill in the blanks with the suitable options.   4x1 = 4

Last week the Annual Function of our school (a) ……………….. . The Mayor of the town (b) ………………….. to grace the occasion as the chief guest. The function was inaugurated by the Principal (c) ………………..the chief guest (d) …………………….. the prize to the winners.

(a) (i) is celebrated   (ii) had been celebrated
    (iii) was celebrated   (iv) shall be celebrated
(b) (i) was invited   (ii) has been invited
    (iii) is invited   (iv) shall be invited
(c) (i) or   (ii) where
    (iii) while   (iv) when
(d) (i) will distribute   (ii) was distribute
    (iii) distributed   (iv) was distributed

SECTION – C (LITERATURE)

4. Answer the following questions in 2o – 25 words each.

a. Why did Einstein wish to continue his education in German speaking Switzerland?   **2**
b. Why did the last leaf not fall ?   **2**
c. The cat and the author are very fond of each other. How has this been shown in the story?   **2**
d. What does the 'earth's diurnal course' imply ?   **2**
e. Who helped the child after losing his parents ? What did he offer to buy him ?   **2**

5. Answer the question in about 100 words.   **8**

How did the author get Baba/ Bruno back ? What arrangements were made for him ?

OR

How does the poem 'No Men are Foreign' give the message of unity and commonality of all mankind ? Give a reasoned answer.

CLASS 09 - 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 गद्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए- (8)**   **[4]**

   संस्कृतियों के निर्माण में एक सीमा तक देश और जाति का योगदान रहता है। संस्कृति के मूल उपादान तो प्रायः सभी सुसंस्कृत और सभ्य देशों में एक सीमा तक समान रहते हैं, किंतु बाह्य उपादानों में अंतर अवश्य आता है। राष्ट्रीय या जातीय संस्कृति का सबसे बड़ा योगदान यही है कि वह हमें अपने राष्ट्र की परंपरा से संपृक्त बनाती है, अपनी रीति-नीति की संपदा से विच्छिन्न नहीं होने देती। आज के युग में राष्ट्रीय एवं जातीय संस्कृतियों के मिलन के अवसर अति सुलभ हो गए हैं, संस्कृतियों का पारस्परिक संघर्ष भी शुरू हो गया है। कुछ ऐसे विदेशी प्रभाव हमारे देश पर पड़ रहे हैं, जिनके आतंक ने हमें स्वयं अपनी संस्कृति के प्रति संशयालु बना दिया है। हमारी आस्था डिगने लगी है। यह हमारी वैचारिक दुर्बलता का फल है।

   अपनी संस्कृति को छोड़, विदेशी संस्कृति के विवेकहीन अनुकरण से हमारे राष्ट्रीय गौरव को जो ठेस पहुँच रही है, वह किसी राष्ट्रप्रेमी जागरूक व्यक्ति से छिपी नहीं है। भारतीय संस्कृति में त्याग और ग्रहण की अद्भुत क्षमता रही है। अत: आज के वैज्ञानिक युग में हम किसी भी विदेशी संस्कृति के जीवंत तत्वों को ग्रहण करने में पीछे नहीं रहना चाहेंगे, किंतु अपनी सांस्कृतिक निधि की उपेक्षा करके नहीं। यह परावलंबन राष्ट्र की गरिमा के अनुरूप नहीं है। यह स्मरण रखना चाहिए कि सूर्य की आलोकप्रदायिनी किरणों से पौधे को चाहे जितनी जीवनशक्ति मिले, किंतु अपनी जमीन और अपनी जड़ों के बिना कोई पौधा जीवित नहीं रह सकता। अविवेकी अनुकरण अज्ञान का ही पर्याय है।

   i. आधुनिक युग में संस्कृतियों पर परस्पर संघर्ष प्रारंभ होने का प्रमुख कारण बताइए। **(2)**

   ii. हम अपनी संस्कृति के प्रति शंकालु क्यों हो गए हैं? **(2)**

   iii. राष्ट्रीय संस्कृति की हमारे प्रति सबसे बड़ी देन क्या है? **(2)**

   iv. हम अपनी सांस्कृतिक संपदा की उपेक्षा क्यों नहीं कर सकते? **(1)**

   v. उपर्युक्त गद्यांश के लिए उपयुक्त शीर्षक दीजिए। **(1)**

Section B

2. निर्देशानुसार उत्तर लिखिए-   **[2]**

   निम्नलिखित शब्दों में प्रयुक्त उपसर्ग एवं मूल शब्द अलग करके लिखिए- (किन्ही दो) (2)

   i. संपूर्ण

   ii. प्रतिदिन

   iii. आरोही

   निम्नलिखित मूल शब्दों में प्रत्यय जोड़कर बनने वाले शब्द लिखिए- (किन्ही दो) (2)

   i. धन + वान

   ii. पण्डित + ई

   iii. छल + इया

3. निम्नलिखित सामासिक विग्रह कीजिए एवं समास भी लिखिए- (किन्हीं तीन)   **[2]**

   i. घर-घर

   ii. माखनचोर

   iii. चौगुनी

   iv. त्रिलोक

4.   I. अर्थ के आधार पर निम्नलिखित वाक्यों के भेद लिखिए- (किन्हीं दो) (2)   **[2]**

          i. भारत क्या है?

          ii. कृपया शांति बनाये रखें।

          iii. दशरथ अयोध्या के राजा हैं।

     II. अर्थ के आधार पर निम्नलिखित वाक्यों में परिवर्तन कीजिए- (किन्हीं दो) (2)

          i. रश्मि आग लगाती है। (प्रश्नवाचक वाक्य)

          ii. मोनिका लड़ाई कर रही है। (संदेहवाचक वाक्य)

          iii. क्या समीर हँस रहा है। (इच्छावाचक वाक्य)

5. निम्नलिखित काव्यांशों के अलंकार भेद पहचान कर लिखिए- (किन्हीं चार)   **[2]**

     i. "लगा दी किसने आकर आग। कहाँ था तू संशय के नाग?"

     ii. खंजरीर नहीं लखि परत कुछ दिन साँची बात।

        बाल द्रगन सम हीन को करन मनो तप जात।।

     iii. यह काया है या शेष उसी की छाया, क्षण भर उनकी कुछ नहीं समझ में आया।

     iv. हनुमान की पूंछ में लगन न पायी आगि।

        सगरी लंका जल गई, गये निसाचर भागि।

     v. कनक कनक ते सौगुनी मादकता अधिकाय।

        या खाए बौरात नर या पा बौराय।।

Section C

6. **निम्नलिखित गद्यांश के आधार पर पूछे गए प्रश्नों के उत्तर दीजिए-**   **[4]**

एकांत क्षणों में सालिम अली बिना दूरबीन भी देखे गए हैं। दूर क्षितिज तक फैली ज़मीन और झुके आसमान को छूने वाली उनकी नज़रों में कुछ-कुछ वैसा ही जादू था, जो प्रकृति को अपने घेरे में बाँध लेता है। सालिम अली उन लोगों में थे जो प्रकृति के प्रभाव में आने की बजाए प्रकृति को अपने प्रभाव में लाने के कायल होते हैं। उनके लिए प्रकृति में हर तरफ़ एक हँसती-खेलती रहस्य भरी दुनिया पसरी थी। यह दुनिया उन्होंने बड़ी मेहनत से अपने लिए गढ़ी थी। इसके गढ़ने में उनकी जीवन-साथी तहमीना ने काफ़ी मदद पहुँचाई थी। तहमीना स्कूल के दिनों में उनकी सहपाठी रही थीं।

     i. सालिम अली दूरबीन का प्रयोग क्यों करते थे? उनकी नज़रों की विशेषता क्या थी? (2)

     ii. तहमीना कौन थीं? उन्होंने सालिम अली की मदद कैसे की? (2)

     iii. गद्यांश के आधार पर सालिम अली की दो विशेषताएँ लिखिए। (1)

7. किसान जीवन वाले समाज में पशु और मनुष्य के आपसी संबंध को कहानी में किस तरह व्यक्त किया गया है?   **[2]**

8. डाँड़े के देवता का स्थान कहाँ था? उसे किस प्रकार सजाया गया था?   **[2]**

9. मैना की अंतिम इच्छा क्या थी? क्या उसकी इच्छा पूरी हो सकी?   **[2]**

10. पाठ प्रेमचन्द के फटे जूते में 'टीले' शब्द का प्रयोग किन संदर्भों को इंगित करने के लिए किया गया होगा?   **[2]**

11. गाँधी जी ने लेखिका से कौन-सी वस्तु माँग ली और क्यों ? 'मेरे बचपन के दिन' पाठ के आधार पर लिखिए।   **[2]**

12. **निम्नलिखित काव्यांश के आधार पर पूछे गए प्रश्नों के उत्तर दीजिए-**   **[4]**

बूढ़े पीपल ने आगे बढ़कर जुहार की,

'बरस बाद सुधि लीन्हीं'

बोली अकुलाई लता ओट हो किवार की,

हरसाया ताल लाया पानी परात भर के।

मेघ आए बड़े बन-ठन के सँवर के।

     i. व्याकुल लता ने मेघ से क्या शिकायत की और क्यों? (2)

     ii. लता और तालाब ने भारतीय संस्कृति की परंपराओं का पालन किस रूप में किया, स्पष्ट कीजिए। (2)

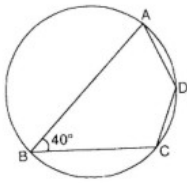   iii. पीपल को किस रूप में चित्रित किया गया है? उसने मेघ का स्वागत कैसे किया?(1)

13. 'मानसरोवर' से कबीर का क्या आशय है? **[2]**

14. कवि को कोयल से ईर्ष्या क्यों हो रही है? **[2]**

15. हथकड़ियों को गहना क्यों कहा गया है? **[2]**

16. कवि रसखान अगले जन्म में कौन-सा पत्थर बनना चाहता है और क्यों? **[2]**

17. चंद्र गहना से लौटती बेर कविता के आधार पर तालाब की चिड़िया कैसी थी? वह अपना शिकार कैसे करती थी? **[2]**

18. क्या गोपाल प्रसाद लड़के-लड़कियों को समान दृष्टि से देखता है? स्पष्ट करें। **[3]**

<div align="center">OR</div>

माटी वाली के पास अपने अच्छे या बुरे भाग्य के बारे में ज्यादा सोचने का समय क्यों नहीं था?

<div align="center">

Section D

</div>

19. देश में व्याप्त भ्रष्टाचार पर मोहित और राहुल दो मित्रों के बीच होने वाले संवाद को लिखिए। **[5]**

CLASS 09 - MATHEMATICS
PERIODIC TEST - III 2019-2020

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

General Instructions:

...

Section A

1. The value of 'x' in $3 + 2^x = (64)^{\frac{1}{2}} + (27)^{\frac{1}{3}}$ is   **[1]**

   a) 14   b) 8

   c) 5   d) 3

2. The zero of the polynomial $(x - 2)^2 - (x + 2)^2$ is   **[1]**

   a) 0   b) 2

   c) 1   d) -2

3. The co-ordinates of the origin are   **[1]**

   a) (2, 2)   b) (0, 0)

   c) (0, 2)   d) (2, 0)

4. The name of each part of the plane formed by the two lines in the Cartesian plane is   **[1]**

   a) x-axis   b) origin

   c) quadrant   d) y-axis

5. The force applied on a body is directly proportional to the acceleration produced on it. The equation to represent the above statement is   **[1]**

   a) y = kx   b) y = x

   c) y + x = 0   d) none of these

6. Find the measure of the complementary angle of 60°.   **[1]**

7. In the given figure, if AC is bisector of $\triangle$BAD, such that AD = AB =3 cm and AC =5 cm. Show that $\triangle$ABC $\cong \triangle$ ADC and BC = CD.   **[1]**

8. Can all the angles of a quadrilateral be right angles? Give reason for your answer.   **[1]**

9. In the figure, $\angle$ABC = 40° then find $\angle$ADC   **[1]**

10. The base and the corresponding altitude of a parallelogram are 10 cm and 7 cm, respectively. **[1]**
Find its area.

Section B

11. Is (x + 1) is a factor of given polynomial p(x) = x^3 - x^2 - (2 + $\sqrt{2}$)x + $\sqrt{2}$? **[2]**

12. Construct a triangle ABC where BC = 5 cm, $\angle$B = 30^0 and AC - BC = 2 cm. **[2]**

13. Using Heron's formula, find the area of an equilateral triangle the length of whose one side is **[2]**
a.

Section C

14. Find the values of a and b in each of $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = 2 - b\sqrt{6}$ **[3]**

15. In figure, bisectors GM and HL of alternate angles AGH and DHG respectively are parallel to **[3]**
each other. Prove that AB || CD.
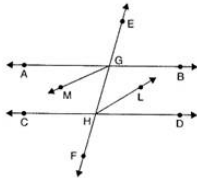
16. In a parallelogram, if a diagonal bisects one angle, prove that it also bisects the opposite angle. **[3]**

17. Construct the Perpendicular bisector of line segment of length 12.5 cm **[3]**

Section D

18. If a + b + c = 5 and ab + bc + ca = 10, then prove that $a^3 + b^3 + c^3 - 3abc = -25$ **[4]**

19. Show that EFGH is a ||gram and its area is half of the area of ||gram ABCD. If E, F, G, H are **[4]**
respectively the midpoints of the sides AB, BC, CD and DA.
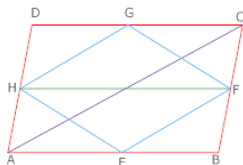
20. If two equal chords of a circle intersect within a circle, prove that the segments of one chord **[4]**
are equal to corresponding segments of the other chord.

ATOMIC ENERGY CENTRAL SCHOOL NO.4

RAWATBHATA

CLASS 09 - SCIENCE

periodic test-III (2019-20)

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

General Instructions:

Draw labeled diagrams wherever asked to do so.

Section A

1. A gas can be best liquefied: **[1]**

   a) By increasing the temperature.

   b) By increasing the temperature and reducing the pressure .

   c) By increasing the pressure and reducing the temperature.

   d) By lowering the pressure.

2. A particle is moving in a circular path of radius r. The displacement after half a circle would be **[1]**

   a) 2r

   b) $2\pi r$

   c) πr

   d) zero

3. According to the third law of motion, action and reaction **[1]**

   a) act on either body at normal to each other

   b) always act on different bodies in opposite directions

   c) have same magnitude and direction

   d) always act on the same body

4. If density of water is 10^3 kg /m^3 and density of copper is 8.9 x 10^3 kg /m^3 .What is the relative density of copper? **[1]**

   a) 4.9

   b) 8.9

   c) 9.8

   d) 14.8

5. Which of the statements is correct? **[1]**

   a) Mass is constant and weight is variable

   b) Both Mass and weight are variable.

   c) Mass is variable and weight is constant.

   d) Both Mass and weight are constant.

6. State law of conservation of Mass? **[1]**
7. Name the two organelles that contain their own genetic material? **[1]**
8. Name one high milk yielding breed of cow and one of buffalo respectively. **[1]**
9. What is the main benefit of mixed cropping? **[1]**
10. When is the acceleration taken as negative? **[1]**

Section B

11. Explain why some of the leaves may get detached from a tree if we vigorously shake its branch. **[3]**

OR

A car of mass 1000 kg moving with a velocity of 45 km h^{-1} collides with a tree and comes to rest in 5s. What will be the force exerted by the car on the tree?

12. Define latent heat of vaporization and latent heat of fusion. **[3]**

13. If 6.3 g of sodium bicarbonate are added to 15.0 g of ethanoic acid (or acetic acid) solution, the residue left is found to weight 18.0 g. What mass of CO_2 is released in the reaction ? **[3]**

OR

(a)The valency of an element X is 4.work out the formula of its oxide and chloride.
(b) Define atomicity.

14. Draw a labelled diagram of the neuron.Also write one difference between bone and cartilage. **[3]**

15. Why are antibiotics not effective for viral disease.Also mention why antibiotics are used to treat bacterial diseases? **[3]**

OR

What are the constituents of a balanced diet?

Section C

16. Look at the activities listed below. Reason out whether or not work is done in the light of your understanding of the term 'work'. **[5]**
(a) Suma is swimming in a pond.
(b) A donkey is carrying a load on its back.
(c) A wind-mill is lifting water from a well.
(d) A green plant is carrying out photosynthesis.
(e) An engine is pulling a train.
(f) Food grains are getting dried in the sun.
(g) A sailboat is moving due to wind energy.

OR

 i. Define kinetic energy of an object. Can kinetic energy of an object be negative? Give reason.
 ii. A car weighing 1200 kg is uniformly accelerated from rest and covers a distance of 40m in 5 s. Calculate the work the car engine had to do during this time.

17. **[5]**
 i. Give any one application of centrifugation and chromatography.
 ii. Why crystallisation is better technique than simple evaporation to purify solids?

18. i. State two characteristic features of amphibians. **[5]**
 ii. Identify the following organisms.
    a. Cold-blooded animals that lay eggs in water and have a three-chambered heart
    b. A spiny skinned organism which has a peculiar water-driven tube system that they use for moving around.
    c. Organisms that have an open circulatory system having a blood-filled coelomic cavity.

CLASS 09 - SOCIAL SCIENCE
Periodic Test III (2019-20)

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

Section A

1. Arrange the following in correct sequence with respect to the period in which the event occurred: **[1]**

   i. Nazi Party became the largest party with 37 percent votes.

   ii. Hitler planned to seize control of Bavaria.

   iii. Adolf Hitler born in Austria.

   iv. The Nazi Party got not more than 2. 6 percent votes in the Reichstag.

       a) iii, ii, i ,iv   b) iv, iii, ii, i

       c) iii, ii, iv, i   d) i, iii, iv, ii

2. Arrange the following in correct sequence: **[1]**

   i. Adolf Hitler born in Austria

   ii. First World War begins

   iii. Weimar Republic established

   iv. Treaty of Versailles

       a) iii, i, iv, ii   b) iii, ii, i, iv

       c) i, iv, iii, ii   d) i, ii, iii, iv

3. Identify the incorrect option. **[1]**

       a) The disappearance of forests is referred to as afforestation.   b) Deforestation is not a recent problem.

       c) Under colonial rule, deforestation became more systematic and extensive.   d) The process of deforestation began many centuries ago.

4. Which of the following is true with reference to the people of Bastar ? **[1]**

   A. They show respect to the spirit of the river, forests and the mountain.

   B. They supported the British when the government decided to reserve two-thirds of the forests.

       a) A is true but B is false.   b) Both A and B are true.

       c) A is false but B is true.   d) Both A and B are false.

5. Which of the following two states are affected by pre-monsoon showers ?a. Kerala, Karnataka b.Punjab, Haryana c.Kerala, Punjab d.Haryana, Rajasthan **[1]**

       a) Kerala, Punjab   b) Kerala, Karnataka

       c) Punjab, Haryana   d) Haryana, Rajasthan

6. How will you define climate? **[1]**

7. Name any two useful trees of the Thorn Forests. **[1]**

8. Name any two biosphere reserves. **[1]**

9. What are the legal declarations of a party candidate? **[1]**

10. What is BPL (Below Poverty Line)? **[1]**

Section B

11. How did the changes in forest management during the colonial period affect the lives of nomadic and pastoral communities? **[3]**

12. How has the photoperiod influence the vegetation cover of India? **[3]**

13. What is Mid-Term and By-Elections? **[3]**

OR

What are the drawbacks of elections?

14. Explain the principle measures taken in Punjab, Kerala and West Bengal to reduce poverty. **[3]**

OR

What are the conditions of MGNREGA?

15. 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. **[3]**

   i. A Forest type

  ii. A Forest Type

      On the same political map locate and label the following

 iii. Kaziranga National Park
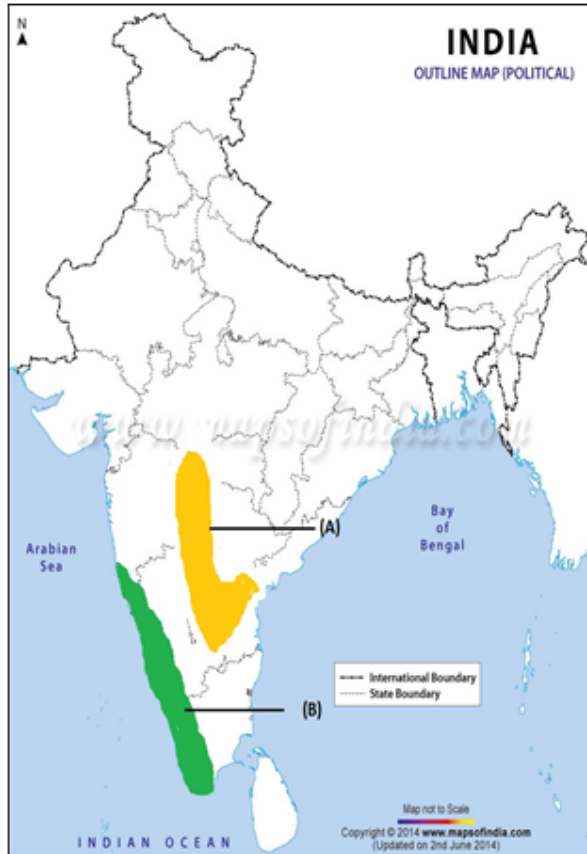
Section C

16. Explain how did the lives of forest-dwellers change after the forest department took over **[5]**

control of the forests? Mention any five points.

17. What kind of education was given in Nazi schools? **[5]**

<div align="center">OR</div>

"Politically, the Weimer Republic was fragile". Explain.

18. Discuss the mechanism of monsoons. **[5]**

<div align="center">OR</div>

How far it is correct to say that both the pressure and the wind conditions over India are unique? What information would you use to support your answer?

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Solution

Class 09 - Hindi A

PERIODIC TEST - III 2019-2020

Section A

</div>

1. i. आधुनिक युग में संस्कृतियों में परस्पर संघर्ष प्रारंभ होने का प्रमुख कारण यह है कि भिन्न संस्कृतियों के निकट आने के कारण अतिक्रमण एवं विरोध स्वाभाविक है।

   ii. हम अपनी संस्कृति के प्रति शंकालु इसलिए हो गए हैं, क्योंकि नई पीढ़ी ने विदेशी संस्कृति के कुछ तत्वों को स्वीकार करना प्रारंभ कर दिया है।

   iii. राष्ट्रीय संस्कृति की हमारे प्रति सबसे बड़ी देन यही है कि वह हमें अपने राष्ट्र की परंपरा और रीति-नीति से जोड़े रखती है।

   iv. हम अपनी सांस्कृतिक संपदा की उपेक्षा इसलिए नहीं कर सकते, क्योंकि ऐसा करने से हम जड़विहीन पौधे के समान हो जाएँगे।

   v. शीर्षक-भारतीय संस्कृति का वैचारिक संघर्ष।

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Section B

</div>

2. उपसर्ग

   i. संपूर्ण = 'सम्' उपसर्ग और 'पूर्ण' मूल शब्द है |

   ii. प्रतिदिन = 'प्रति' उपसर्ग 'दिन' मूल शब्द है |

   iii. आरोही = 'आ' उपसर्ग 'रोही' मूल शब्द है |

   प्रत्यय

   1. धन + वान = धनवान

   2. पण्डित + आई = पण्डिताई

   3. छल + इया = छलिया

3. i. घर-घर = प्रत्येक घर (अव्ययीभाव समास)

   ii. माखनचोर = माखन को चुराने वाला (तत्पुरुष समास)

   iii. चौगुनी = चार गुनी (द्विगु समास)

   iv. त्रिलोक = तीन लोकों का समाहार (द्विगु समास)

4. I. i. प्रश्नवाचक वाक्य

      ii. आज्ञावाचक वाक्य

      iii. विधानवाचक वाक्य

   II. i. क्या रश्मि आग लगाती है?

      ii. संभवतः मोनिका लड़ाई कर रही होती। अथवा शायद मोनिका लड़ाई कर रही है।

      iii. काश समीर हँस रहा हो।

5. i. अनुप्रास अलंकार

   ii. उत्प्रेक्षा अलंकार

   iii. संदेह अलंकार

   iv. अतिश्योक्ति अलंकार

   v. यमक अलंकार

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Section C

</div>

6. i. सालिम अली प्रसिद्ध पक्षी-प्रेमी थे। वे पक्षियों की खोज में दूर-दूर तक दुर्गम स्थानों पर जाया करते थे। वे दूरबीन का प्रयोग दूर-दराज बैठे पक्षियों के सूक्ष्म निरीक्षण के लिए प्रयोग करते थे। वे पारखी दृष्टि के थे । उनकी नज़रों में प्रकृति को बाँध लेने का जादू था। उनकी नज़रें क्षितिज और आसमान तक देखने में उनकी मदद करती थीं।

   ii. तहमीना सालिम अली की सहपाठिन थी। बाद में वे सालिम अली की जीवन संगिनी बनीं। सालिम अली के लिए प्रकृति खूबसूरती और रहस्यों से भरी हुई खुशहाल नज़र आती थी। प्रकृति के सान्निध्य में उन्होंने अपनी एक सुंदर दुनिया बनाई थी जिसे बनाने में तहमीना ने उनकी मदद की।

   iii. गद्यांश के आधार पर सालिम अली की दो विशेषताएँ निम्नलिखित हैं -

      1. सालिम अली का प्रकृति से घनिष्ठ लगाव था और वे उसकी सुरक्षा और संरक्षण के लिए हमेशा चिंतित रहते थे।

      2. पक्षियों की खोज करते हुए वे उनके बारे में नई-नई जानकारियाँ एकत्रित करते थे और उनके संरक्षण के लिए प्रयासरत रहते थे।

7. किसान का जीवन खेती पर आधारित होता है | खेती पशुओं के बिना असंभव है | पशु आदिकाल से ही मनुष्यों के साथी रहे हैं। मनुष्य ने कभी उन्हें अपनी सुरक्षा के लिए पाला तो कभी आर्थिक लाभ के लिए। किसान-जीवन में किसान हल चलाने, बोझा ढोने, पानी खींचने तथा सवारी करने के लिए मनुष्य पशुओं का प्रयोग करता है। पशु भी अपने चारे के लिए मानव-जाति पर निर्भर रहते हैं। कहानी में झूरी अपने बैलों से प्यार करता है तथा उनके खाने पीने का ध्यान रखता है | हीरा-मोती भी झूरी से बहुत लगाव रखते हैं और हर समय काम करने के लिए तत्पर रहते हैं | अंत में वे हर मुसीबत पर विजय पाते हुए प्रेम न करने वाले गया के घर से भाग जाते हैं और लौटकर झूरी के पास आ जाते हैं।

8. डाँड़े के देवता का स्थान उस चोटी पर था जो सबसे ऊँची थी। उस स्थान को जानवरों की हड्डियों और से पत्थरों के ढेर से सजाया गया था। वहाँ पर जानवरों के सींग भी रखे हुए थे । इसके आसपास रंग-बिरंगे कपड़े की झंडियाँ लगाई गई थीं।

9. नाना साहब की पुत्री मैना को अपने महल से बहुत लगाव था। उस महल को अंग्रेजों ने जलाकर नष्ट कर दिया था। वह इस प्रासाद के भग्नावशेष पर बैठकर कुछ देर रोना चाहती थी। इसके लिए उसने अनुमति माँगी पर जनरल अउटरम ने उसे अस्वीकार कर दिया। अतः मैना की अंतिम इच्छा इस प्रकार पूरी न हो सकी।

10. 'टीले' का शाब्दिक अर्थ है अवरोध , ऐसा अवरोध जिसे लांघा नहीं जा सकता। पाठ में टीले शब्द का प्रयोग प्रेमचंद के जीवन में आने वाली उन कठिनाइयों के लिए किया है जो समाज के पंडित, पुरोहित, मौलवी, जमींदार आदि कथित ठेकेदारों द्वारा खड़ी की गई। इनके कारण ही समाज में ऊँच-नीच की भावना, जाति-पाँति, छुआछूत, बाल-विवाह, शोषण, बेमेल विवाह, अमीर-गरीब की भावना आदि टीले के रूप में खड़ी हो समाज की उन्नति के मार्ग को अवरूद्ध करती हैं।

11. लोग आजादी की लड़ाई में अपना योगदान देते थे। एक बार गाँधी जी इलाहाबाद लेखिका के छात्रावास में आए थे । लेखिका ने जब उत्साहपूर्वक गाँधी जी को अपना पुरस्कार में मिला नक्काशीदार चाँदी का कटोरा दिखाया, तो गाँधी जी ने वह कटोरा माँग लिया। वे बच्चों तथा देश के नागरिकों से इस प्रकार प्राप्त वस्तुएँ और धन आदि से, उन स्वतंत्रता सेनानियों की मदद करते थे, जो देश को आजादी दिलाने के लिए संघर्ष कर रहे थे।

12. i. व्याकुल लता नवविवाहिता है जो मेघ रूपी पति से अलग हो विरह व्यथा झेल रही थी। उसने शिकायत स्वरूप मेघ से कहा कि वर्षों बाद तुम्हें मेरी याद आई।उसने ऐसा इसलिए कहा क्योंकि मेघ रूपी मेहमान उसे यहाँ छोड़कर साल भर बाद आया है।

ii. लता और तालाब ने भारतीय संस्कृति की परंपराओं का पालन निम्न रूप में किया-

1. लता (नवविवाहिता) घर के बड़े-बूढ़ों की उपस्थिति में मेघ रूपी अपने पति के सामने नहीं आई और किवाड़ की ओट से उससे बात की।
2. मेघ रूपी मेहमान के पैर धुलवाने के लिए तालाब (घर का सदस्य) खुशी-खुशी परात में पानी भर लाया।

iii. पीपल को घर का सबसे बुजुर्ग और सम्माननीय सदस्य के रूप में बताया है। उसने मेघ का स्वागत हाथ जोड़ते हुए आगे बढ़कर किया |

13. मानसरोवर से कवि का आशय मन रूपी सरोवर से है। इसमें स्वच्छ विचार रूपी जल भरा हुआ है। इस स्वच्छ जल में जीवात्मा रूपी हंस प्रभु भक्ति में लीन होकर स्वच्छंद होकर मुक्तिरूपी मुक्ताफल चुग रहे हैं। ऐसे आनंददायक स्थान को छोड़कर वे अन्यत्र जाना नही चाहते।

14. कवि को कोयल से इसलिए ईर्ष्या हो रही है क्योंकि कोयल स्वतंत्रतापूर्वक नीले आसमान में अपनी उड़ान भर रही है जबकि कवि का संसार दस फुट की कोठरी में सिमट कर रह गया है। जहाँ कोयल ने पेड़ की हरी-भरी डाली पर अपना घोंसला बनाया हुआ है वहीं कवि को काल कोठरी में रहना पड़ रहा है। कोयल को अपने गीतों पर प्रशंसा सुनने को मिलती है पर कवि का तो रोना भी गुनाह माना जाता है।

15. कवि ने हथकड़ियों को गहना इसलिए कहा है क्योंकि कवि की दृष्टि में अपनी मातृभूमि की स्वतंत्रता के लिए आवाज़ उठाना कोई जुर्म नहीं है, इसलिए हथकड़ियाँ उनके लिए बंधन नहीं हैं। कवि स्वाधीनता सेनानी है। कवि ने देश की स्वतंत्रता के लिए आवाज़ उठाई है इसलिए हथकड़ियाँ उनके लिए बंधन न होकर गहना बन गई हैं।

16. कवि रसखान श्रीकृष्ण के अनन्य भक्त हैं। वे अपने प्रभु श्रीकृष्ण का सामीप्य पाना चाहते हैं। वे सोचते हैं कि यदि उन्हें अगले जन्म में पत्थर बनना पड़े तो वह उसी गोवर्धन पर्वत का पत्थर बनें जिसे श्रीकृष्ण ने अपनी उँगली पर उठाकर क्रोधित इंद्र के कहर से ब्रजवासियों की रक्षा की थी।

17. तालाब की चिड़िया का माथा काला था। वह चतुर थी, जिसके पंख सफेद तथा चोंच पीली थी। जैसे ही वह पानी की सतह पर कोई मछली देखती थी, उस पर झपट्टा मार देती थी। वह उसे अपनी पीली चोंच में दबाकर आकाश में उड़ जाती थी।

18. गोपाल प्रसाद की सोच समाज के लिए हितकर नहीं है। वह लड़के तथा लड़कियों को समान दृष्टि से नहीं तरह-तरह के तर्क देकर लड़के-लड़कियों में अंतर बताकर दूसरों को उकसाता है। उसका मानना है कि लड़कों को पढ़ना-लिखना चाहिए, काबिल बनना चाहिए जबकि लड़कियों को पढ़ना-लिखना आवश्यक नहीं है क्योंकि उन्हें घर ही तो चलाना है। अपनी बात के प्रमाण में वह कहता है कि मोर के पंख होते हैं, मोरनी के नहीं, शेर के बाल होते हैं, शेरनी के नहीं।

OR

माटी वाली समाज के अत्यंत गरीब मजदूर वर्ग का प्रतिनिधित्व करती है। वह सुबह जल्दी उठकर माटाखान जाती तथा मिट्टी से कंटर भरती और मिट्टी सहित कंटर सिर पर रख शहर में घर-घर घूमती थी। इसके बदले में लोग उसे एक-दो सूखी रोटियाँ कभी-कभी ताज़ा-बासी साग या चाय दे देते। उसे अपनी बीमार पति की चिंता भी रहती थी। उसकी देखभाल भी वही करती थी। अपनी इसी दिनचर्या को अपनी नियति मानकर वह जिए जा रही थी। ऐसे में उसके पास अपने अच्छे या बुरे भाग्य के बारे में सोचने का ज्यादा समय न था।

Section D

19. मोहित-अरे राहुल! क्या बात है ? इतने उदास क्यों लग रहे हो ?

राहुल-क्या बताऊँ मोहित देश में भ्रष्टाचार तो कुकुरमुत्ते की भांति फैलता ही जा रहा है ।

मोहित - राहुल तुम सच कह रहे हो। भ्रष्टाचार के कारण आज हमारा जीना हराम हो गया है।

राहुल - क्या बात है, मोहित, तुम तो मेरी बात सुनकर कुछ ज्यादा ही परेशान हो गए हो | कुछ हुआ है क्या?

मोहित - एक बात है राहुल, तुम बताओ क्या तुम भ्रष्टाचार से त्रस्त नहीं हो? क्या तुम्हारा सबकुछ ठीक-ठाक चल रहा है?

राहुल - नहीं, यार! ठीक-ठाक क्या चलेगा? बस अपना काम तो कर ही लेता हूँ।

मोहित - क्या? तुम अपना काम कैसे निकालते हो? क्या तुम भी अपना काम निकालने के लिए भ्रष्टाचारियों को बढ़ावा देते हो।

राहुल - मज़बूरी है यार क्या करूँ?

मोहित - ठीक है तो मेरी तुम्हारी दोस्ती समाप्त! मैं भ्रष्टाचारियों के साथ नहीं रह सकता।

राहुल - नहीं यार, मैं सबकुछ छोड़ दूँगा तुम्हें नहीं छोड़ सकता! आज से मैं किसी को भी रिश्वत नहीं दूँगा।

Solution

Class 09 - Mathematics

PERIODIC TEST - III 2019-2020

Section A

1. **(d)** 3

   Explanation:
   $$3+2^x=(64)^{\frac{1}{2}}+(27)^{\frac{1}{3}}$$
   $$\Rightarrow 3+2^x=\sqrt{64}+\sqrt[3]{27}$$
   $$\Rightarrow 3+2^x=8+3$$
   $$\Rightarrow 2^x=8=2^3$$
   $$equating\ both,$$
   $$x=3$$

2. **(a)** 0

   Explanation: $(x-2)^2-(x+2)^2$

   $= (x-2+x+2)(x-2-x-2)$ [Using identity $a^2-b^2=(a+b)(a-b)$]

   $= (2x)(-4)$

   $= -8x$

   Then the zero is

   $-8x=0$

   => $x=0$

3. **(b)** (0, 0)

   Explanation: In co-ordinate,

   there are two Axis one is x axis and other is y axis, the point of intersection of both x-axis and y-axis is origin.

   Coordinate of origin is always (0,0)

4. **(c)** quadrant

   Explanation: In the Cartesian plane, there are two Axis one is x axis and other is y axis.

   when the both Axis cut one another it forms four quadrant(quadrant 1,2,3and 4)

5. **(a)** y = kx

   Explanation: let force applied be y and accleration produced be x

   The force applied on a body is directly proportional to the acceleration produced on it.

   $y\alpha x$

   $y=kx$

   where k is proportionality constant

6. The measure of the complementary angle x = $(90^o – r^o)$

   Where r^o = given measurement

   $\therefore$ x = $(90^o – 60^o) = 30^o$

7. In $\triangle$ABC and $\triangle$ADC,

   $\angle$ABC = $\angle$ADC [each 90°]

   AB = AD [given]

   and AC = AC [common side]

   $\therefore$ $\triangle$ABC $\cong$ $\triangle$ADC [by RHS congruence rule]

   Then, BC = DC [byCPCT]

   Hence proved.

8. Yes, all the angles of a quadrilateral can be right angles. Angles sum of a quadrilateral will be 360°, which is true.

9. $\therefore$ $\angle$ABC + $\angle$ADC = 180° ($\because$ Opposite angles of a cyclic quadrilateral are supplementary)

   $\angle$ADC = 180° - $\angle$ABC

$= 180^0 - 40^0 = 140^0$

10. The base of parallelogram =10 cm and the corresponding altitude = 7 cm.

    Area of parallelogram = Base × Corresponding altitude

    $= 10 \times 7 = 70$ cm^2.

Section B

11. Let p(x) = $x^3 - x^2 - (2 + \sqrt{2})x + \sqrt{2}$

    The zero of x + 1 is -1

    p(-1) = $(-1)^3 - (-1)^2 - (2 + \sqrt{2})(-1) + \sqrt{2}$ = -1 - 1 + 2 + $\sqrt{2}$ + $\sqrt{2}$ = $2 + 2\sqrt{2} \neq 0$

    ∴ By factor theorem, x + 1 is not a factor of $x^3 - x^2 - (2 + \sqrt{2})x + \sqrt{2}$

12. Given: In △ABC, BC = 5 cm, B = 30^0 and AC – BC = 2 cm.

    Required: To construct the △ABC

    Steps of construction :

    i. Draw the base BC = 5 cm.

    ii. At the point B construct an ∠XBC = 30^0

    iii. Cut line segment BD equal to AC – AB = 2 cm. on the line XB extended or opposite side of line segment BC.
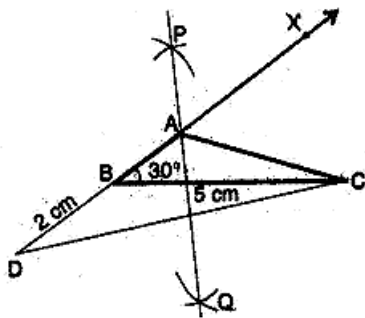
    iv. Join DC and draw the perpendicular bisector, say PQ of DC.

    v. Let PQ intersect BX at A.

    vi. Join AC.

    ABC is the required triangle.

13. 'a' = a, 'b' = a, 'c' = a

    $\therefore s = \frac{'a' + 'b' + 'c'}{2}$

    s = $\frac{a+a+a}{2} = \frac{3a}{2}$

    ∴ Area of the equilateral triangle

    $= \sqrt{s(s -' a')(s -' b')(s -' c')}$

    $= \sqrt{\frac{3a}{2}\left(\frac{3a}{2} - a\right)\left(\frac{3a}{2} - a\right)\left(\frac{3a}{2} - a\right)}$

    $= \sqrt{\frac{3a}{2}\left(\frac{a}{2}\right)\left(\frac{a}{2}\right)\left(\frac{a}{2}\right)}$

    $= \frac{\sqrt{3}a^2}{4}$ square units.

Section C

14. LHS $= \frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = \frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} \times \frac{3\sqrt{2}+2\sqrt{3}}{3\sqrt{2}+2\sqrt{3}}$

    $= \frac{(\sqrt{2}+\sqrt{3})(3\sqrt{2}+2\sqrt{3})}{(3\sqrt{2})^2-(2\sqrt{3})^2}$

    $= \frac{6+2\sqrt{6}+3\sqrt{6}+6}{18-12}$

    $= \frac{12+5\sqrt{6}}{6} = 2 + \frac{5\sqrt{6}}{6}$

    Now, $2 - b\sqrt{6} = 2 + \frac{5}{6}\sqrt{6} \Rightarrow b = -\frac{5}{6}$

15. GM || HL . . . . [Given]

    As transversal EF intersects them

    ∴ ∠MGH = ∠GHL . . . [Alternate angles]

    ∴ 2∠MGH = 2∠GHL

    ∴ ∠AGH = ∠DHG . . . .[GM bisects the ∠AGH and HL bisects the angle ∠DHG]

These angles form a pair of equal alternate angles for lines AB and CD and transversal EF.

∴ AB || CD

16. Given: A parallelogram ABCD in which diagonal AC bisects ∠A
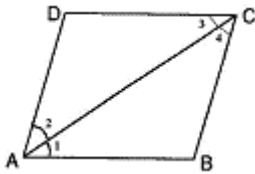
To Prove: AC bisects ∠C.

Proof : ABCD is a parallelogram, so AB || DC and AD || BC

∴ ∠1 = ∠3 . . . [Alternate interior angles] . . . (1) As AB || DC

∴ ∠2 = ∠4 . . . [Alternate interior angles] . . . (2) As AD || BC

But ∠1 = ∠2 . . . [As AC bisects ∠A] . . . (3)

∠3 = ∠4 . . . [From (1), (2), (3)]

∴ AC bisects ∠C.

17. Steps of construction:

i. Draw a line segment AB of length 12.5cm

ii. Taking A as a centre and arc of radius more than $\frac{1}{2}AB$ draw both sides of AB

iii. Again taking B as a centre and arc of previous radius draw both sides of AB which intersect previous arcs at C and D

iv. Join CD, which intersect AB at O.

v. Point O bisects AB.

Section D

18. As we know,

$$a^3 + b^3 + c^3 - 3abc = (a+b+c)\left(a^2 + b^2 + c^2 - ab - bc - ca\right)$$
$$= (a+b+c)\left[a^2 + b^2 + c^2 - (ab + bc + ca)\right]$$
$$= 5\left\{a^2 + b^2 + c^2 - (ab + bc + ca)\right\}$$
$$= 5\left(a^2 + b^2 + c^2 - 10\right)$$

Now, $a + b + c = 5$

Squaring both sides, we get

$$(a+b+c)^2 = 5^2$$
$$\Rightarrow a^2 + b^2 + c^2 + 2(ab + bc + ca) = 25$$
$$\therefore a^2 + b^2 + c^2 + 2(10) = 25$$
$$\Rightarrow a^2 + b^2 + c^2 = 25 - 20 = 5$$

Now, $a^3 + b^3 + c^3 - 3abc = 5\left(a^2 + b^2 + c^2 - 10\right)$
$$= 5(5 - 10) = 5(-5) = -25$$

Hence, proved.

19. Join AC and HF

E and F are the mid-points of AB and BC

∴ EF = $\frac{1}{2}$ AC and EF ∥ AC ...(i)

Similarly, GH = $\frac{1}{2}$ AC and GH ∥ AC ...(ii)

From (i) and (ii)

GH = EF and GH ∥ EF

∴ EFGH is a ∥gram

ar $(\triangle HGF) = \frac{1}{2} ar \left(\|gram\ HDFC\right)$ ...(iii)

ar $(\triangle HEF) = \frac{1}{2}ar(\|gram\ HABF)$ ...(iv)

Adding (iii) and (iv),

ar $(\triangle HGF) + ar(\triangle HEF)$

$= \frac{1}{2}ar(\|gram\ HDCF) + ar(\|gram\ HABF)$

$\Rightarrow ar(\|gram\ EFGH)\frac{1}{2}are(\|gram\ ABCD)$

20. Given: Let AB and CD are two equal chords of a circle of centers O intersecting each other at point E within the circle.

    To prove: (a) AE = CE (b) BE = DE

    Construction: Draw OM $\perp$ AB, ON $\perp$ CD. Also join OE.
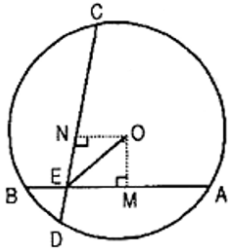
    Proof: In right triangles OME and ONE,

    $\angle$OME = $\angle$ONE = 90°

    OM = ON

    [Equal chords are equidistance from the centre]

    OE = OE [Common]

    $\therefore \triangle$OME $\cong \triangle$ONE [RHS rule of congruency]

    $\therefore$ ME = NE [By CPCT] ...(i)

    Now, O is the centre of circle and OM $\perp$ AB

    $\therefore$ AM = $\frac{1}{2}$ AB [Perpendicular from the centre bisects the chord] ...(ii)

    Similarly, NC = $\frac{1}{2}$ CD ...(iii)

    But AB = CD [Given]

    From eq. (ii) and (iii), AM = NC ...(iv)

    Also MB = DN ...(v)

    Adding (i) and (iv), we get,

    AM + ME = NC + NE

    $\Rightarrow$ AE = CE [Proved part (a)]

    Now AB = CD [Given] ...(v)

    AE = CE [Proved] ...(vi)

    Subtracting eq. (vi) from eq. (v), we have

    $\Rightarrow$ AB - AE = CD - CE

 $\Rightarrow$ BE = DE [Proved part (b)]

Section A

1. **(c)** By increasing the pressure and reducing the temperature.
   Explanation: The physical state of matter is defined by the intermolecular spaces between them. The gases have the highest empty space between them while the liquids have comparatively lower space. Hence the gases can be liquefied by reducing the gap between the molecules. This can be done either by reducing the temperature or increasing the pressure.

2. **(a)** 2r
   Explanation: Given, after half the circle, the particle will reach the diametrically opposite point i.e., from point A to point 6. And we know displacement is shortest path between initial and final point.
   Displacement after half circle = AB=OA + OB [∵ Given, OA and OB = r]
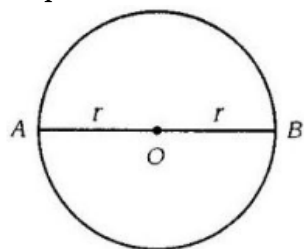
   = r + r = 2r
   Hence, the displacement after half circle is 2r.

3. **(b)** always act on different bodies in opposite directions
   Explanation: According to Newton's 3rd law of motion , action and reaction are of equal magnitude and directed in opposite direction.

4. **(b)** 8.9

   Explanation: Relative density = $\frac{Density\ of\ copper}{Density\ of\ water} = \frac{8.9 \times 10^3\ kg\ /m^3}{10^3\ kg\ /m^3} = 8.9$

5. **(a)** Mass is constant and weight is variable
   Explanation: Mass is an independent quantity but weight is dependent on gravity.As the gravity changes, weight also change.

6. According to the law of conservation of Mass, mass can neither be created nor be destroyed in a chemical reaction.The law of conservation of mass means that in a chemical reaction, the total mass of products is equal to the total mass of reactants. There is no change in mass during a chemical reaction.

7. Chloroplast and Mitochondria.

8. Karan–swiss and Murrah respectively.

9. It reduces production risk and gives insurance against failure of all the crops.

10. If the velocity of an object decreases, then the object is said to be moving with negative acceleration. It is also called retardation.

Section B

11. When the branch is suddenly set in motion, the leaves attached to it tend to continue in their state of rest because of inertia of rest. It generates a lot of strain at the junction of leaves and the branch. Because of this strain some leaves get detached from the branch.

    OR

    Initial velocity of car = 45 km h^{-1}
    = $45 \times \frac{5}{18} = \frac{225}{18}$ ms^{-1}
    Final velocity of the car (v) = 0
    Time (t) = 5 s
    Mass of the car (m) = 1000 kg

Force exerted by the tree on the car

$$F = \frac{m(v-u)}{t} = \frac{1000 \times \left(0 - \frac{225}{18}\right)}{5}$$
$$= \frac{-1000 \times 225}{90} = \text{-2500 N}$$

Hence force exerted by the car on tree

= -(F) = -(-2500 N) = 2500 N

12. Latent heat of vaporization is the amount of heat energy that is required to change 1 kg of a liquid into gas at atmospheric pressure at its boiling point, i.e. without changing its state.
Latent heat of fusion is the amount of heat energy that is required to change 1 kg of a solid into liquid at atmospheric pressure at its melting point, i.e. without changing its state.

13. The chemical reaction leading to products is :
sodium bicarbonate + ethanoic acid → sodium ethanoate solution + carbon dioxide
(residue left) (released)
Mass of reactants = (6.3 + 15.0) = 21.3 g
Mass of products = Mass of residue + Mass of carbon dioxide released.
= 18.0 g + x g
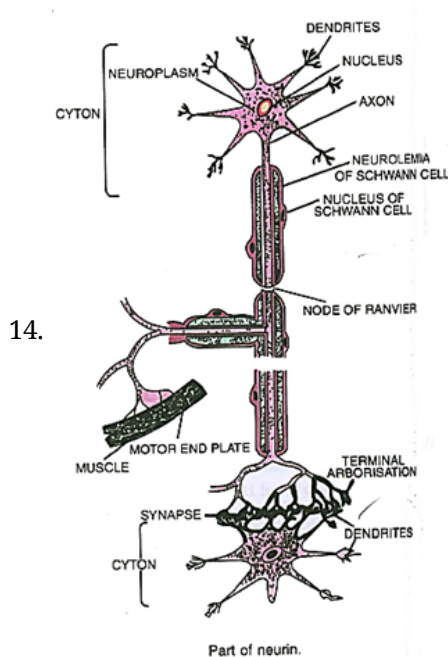According to law of conservation of mass,
Mass of reactants = Mass of products
21.3 g = (18.0 + x) g
or x = 21.3 - 18.0 = 3.3 g
∴ Mass of carbon dioxide released = 3.3 g

OR

refer NCERT IX SCIENCE lesson 3

14.

Part of neurin.

15. Antibiotics block the bacterial pathways without affecting the pathways of humans. In the case of viruses, they have very few biochemical pathways of their own. They use the metabolic machinery of host and grow and reproduce. Since these biochemical processes are the targets of antibiotics, antibiotics do not work on viruses.

OR

Balanced diet: The diet which contains adequate amount of all nutrients is known as balanced diet.
Main constituents of a balanced diet are as follows:
  a. **Carbohydrate:** It provides 50-70% of total energy intake.
  b. **Fat:** For an adult, fat should provide 20% of total energy intake. Children require more fat to provide 50% of the total energy intake.
  c. **Proteins:** Protein intake should be about 15-20% of the total daily energy intake.
  d. Vitamins and minerals

e. Water

f. Roughage

All these nutrients are necessary for the proper growth and development of an individual.

Section C

16. Work will be done if a force acts on an object and displacement occurs in the direction of force. According to this explanation work is done in following activities:

    (a) Suma is doing work. She is applying force to move horizontally.

    (b) Donkey is not doing any work. Here, the displacement and the force are at 90°.

    (c) Work is done by the windmill. The water is lifted against force of gravity.

    (d) No work is done by a green plant during photosynthesis.

    (e) The engine applies a pulling force on the train, and the train moves in the direction of this force. Therefore, engine is doing work.

    (f) During drying of food grains in the sun no work is done.

    (g) Work is done by the air. The sailboat moves in the direction of the force exerted by wind.

    OR

    i. The energy possessed by a body by virtue of its motion is called its kinetic energy.

    No, the kinetic energy of an object cannot be negative because both m and v^2 are always positive and KE = $\frac{1}{2}mv^2$

    ii. Given, mass of car m = 1200 kg, Displacement covered, s = 40 m, time taken, t = 5 s, initial velocity, u = 0, W = ?

    We know that, W = Fs = ma$\times$s [$\because$ F = ma]

    Now, s = ut + $\frac{1}{2}$ at^2

    40 = 0 $\times$ t + $\frac{1}{2}$ $\times$ a $\times$ (5)^2

    40 = $\frac{1}{2}$ $\times$ a $\times$ 25

    a = $\frac{40 \times 2}{25}$ = 3.2 ms^{-2}

    $\therefore$ W = Fs = ma $\times$ s

    = 1200 $\times$ 3.2 $\times$ 40 = 153600 J

    The work needed to be done by the car engine = 153600 J

17. i. The steps involved in the process of obtaining pure copper sulphate from an impure sample are as follows:

    - Dissolve copper sulphate in water.
    - Add a few drops of dil. H_2SO_4 to get a clear solution.
    - Heat the solution in China dish till crystallisation point is reached.
    - Cool this saturated solution.
    - Crystals of pure copper sulphate are formed. Impurities remain behind in the solution.
    - Separate these crystals from solution by filtration and dry them.

    ii. The method is crystallisation. It is used for the purification of common salt from water.

    iii. Soluble impurities can be removed by this technique which is not removed by evaporation.

18. i. Characteristic features of amphibians are:

    a. Respiration either through gills or lungs or skin.

    b. The skin has mucus glands.

    ii. a. Amphibians

    b. Echinoderms

    c. Arthropods

Solution

Class 09 - Social Science

Periodic Test III (2019-20)

Section A

1. **(c)**
    iii, ii, iv, i

    Explanation:
    iii. In 1889, Adolf Hitler born in Austria.
    ii. In 1923, Hitler planned to seize control of Bavaria.
    iv. In 1928, the Nazi Party got not more than 2. 6 percent votes in the Reichstag.
    i. By 1932, Nazi Party became the largest party with 37 percent votes.

2. **(d)** i, ii, iii, iv
    Explanation:
    i. 20th April, 1889 - Adolf Hitler born in Austria
    ii. 1st August, 1914 - First World War begins
    iii. 9th November, 1918 - Weimar Republic established
    iv. 28th June, 1919 - Treaty of Versailles

3. **(a)**
    The disappearance of forests is referred to as afforestation.

    Explanation:
    The disappearance of forests is referred to as deforestation.

4. **(a)** A is true but B is false.
    Explanation: A.In addition to the Earth, they show respect to the spirits of the river,the forest and the mountain.
    B.When the colonial government proposed to reserve two-thirds of the forest in 1905, and stop shifting cultivation, hunting and collection of forest produce, the people of Bastar were very worried.They were against British.
    Hence A is true but B is false.

5. **(b)** Kerala, Karnataka
    Explanation: Towards the close of the summer season,
    pre-monsoon showers are common especially, in Kerala and Karnataka. They help in the early ripening of mangoes, and are often referred to as 'mango showers'.

6. Climates refer to the sum total of weather conditions and variations over a large area for a long period of time.

7. Kikar, babul, khair and date palm.

8. Nilgiri (Tamil Nadu, Kerala and Kamataka), Nanda Devi (Uttarakhand).

9. Details of assets and liabilities of the candidate and his or her family and Educational qualifications of the candidate.

10. In India, the concept of Poverty line is used as a measure of absolute poverty. So BPL (Below Poverty Line) is a line which demarcate the people, who are living below the poverty from those, who are living above the poverty line.

Section B

11. A. The new forest management laws changed the lifestyle of nomadic and pastoral communities.
    B. Their natural grazing lands were either changed into agricultural land or reserves.
    C. Many communities were classified as criminal tribes.
    D. They were forced to settle in the village under strict vigilance.

12. The duration of sunlight is called photoperiod.It influences the vegetation cover of India in following manner:

A.The variation in duration of sunlight at different place is due to differences in latitude, altitude, seasons and duration of the day.

B. Due to longer duration of sunlight, trees grow faster in summer.

13. A. Elections held before the fixed tenure is termed as Mid-Term elections.

B. Sometimes election is held only for one constituency to fill the vacancy caused by death or resignation of a member. This called a By Election.

<div align="center">OR</div>

A. Able and intelligent persons are afraid of contesting elections.

B. Elections are a very expensive process which is a heavy burden on the people.

C. Sometimes the dynastic trends emerged in the elections.

D. Tickets are distributed to nears and dears of the leaders.

14. **Following are the factors that helped Punjab, Kerala and West Bengal in reducing poverty:**

i. **Punjab:** It has succeeded in reducing poverty due to high agricultural growth.

ii. **Kerala:** It has succeeded in reducing poverty by investing in human resource development. Kerala is the highest literate state in the country.

iii. **West Bengal:** In West Bengal, land reform measures have helped in reducing poverty. Operation Barga is a land reform movement that largely protects the interests of the sharecroppers (Bargadars) and prevented them from the exploitation of landowners.

<div align="center">OR</div>

(i) The Act provides 100 days assured employment every year to every rural household in 200 districts.

(ii) Under the programme, if an applicant is not provided employment within 15 days, he/she will be entitled to a daily unemployment allowance.

15.
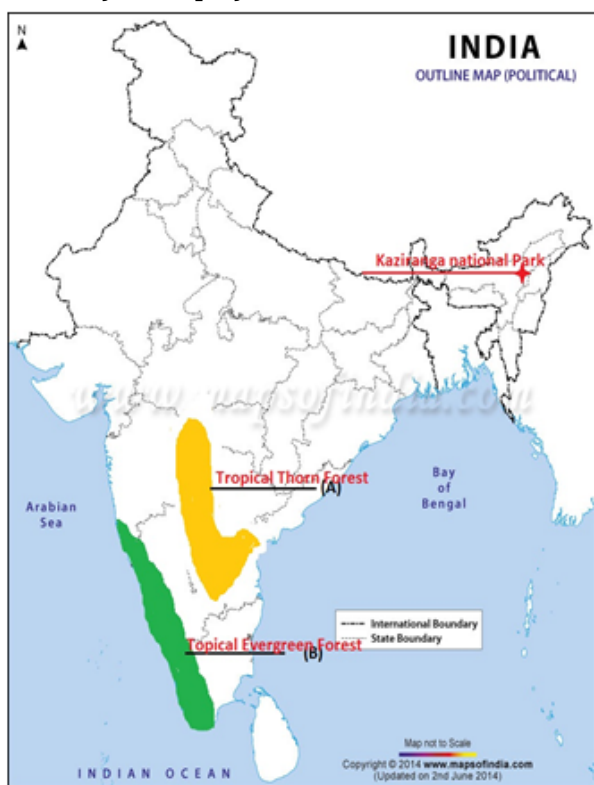
<div align="center">**Section C**</div>

16. The forest department took control of the forests by introducing the Forest Act of 1865 and 1878. In the following ways, the life of forest -dwellers changed after the Act

i. After this, some people benefitted from the new opportunities, they left their traditional occupations and started trading in forest products.

ii. From the medieval period onwards Adivasi communities were trading elephants and other goods like hides, horns, silk cocoons, ivory, bamboo, spices, fibres, grasses, gums, resins, etc.

iii. The British Government took total control of the trade-in forest products. They gave many large European trading firms the sole right to trade in the forest products of particular areas.

iv. Grazing and hunting by local people were restricted. Many pastoralists and nomadic communities like the Korava, Karacha, Yerukula of Madras Presidency and Banjaras lost their livelihoods.

     v. Some tribals were branded as 'criminal tribes' and they lost their old occupations and were forced to work in factories, mines and plantation under government supervision and were offered a very low Wage. In this way, the lives of forest-dwellers were completely changed after the forest department took over control of the forests.

17. (i) Jew teachers were dismissed from the schools.
(ii) Children were segregated. Germans and Jews neither could sit together nor play together.
(iii) Subsequently, undesirable children—Jews, the physically handicapped and Gypsies were thrown out of schools.
(iv) School textbooks were rewritten.
(v) Racial Science was introduced to justify Nazi's ideas of race.
(vi) Children were taught to be loyal and submissive, to hate the Jews and worship Hitler.
(vii) Boxing was introduced as Hitler believed that it could make children iron hearted, strong and masculine.

<p align="center">OR</p>

A. Politically, too the Weimer republic was Fragile. The Weimer Constitution had some inherent defects, which made it unstable and vulnerable to dictatorship.
B. One was proportional representation. This made achieving a majority by any one party a near impossible task, leading to a rule by coalition.
C. Another defect was Article 48, which gave the President the powers to impose emergency, suspend civil rights and rule by decree.
D. Within its short life the Weimar Republic saw twenty different cabinets lasting on an average 239 days, and a liberal use Article 48.
E. Yet the crises could not manage. People lost confidence in the democratic parliamentary system, which seemed to offer no solutions.

18. Following are the factors responsible for the mechanism of monsoon:
- The Sun causes differential heating and cooling of land and water. This creates low pressure on the landmass of India and high pressure over the ocean surface.
-The Inter Tropical Convergence Zone (ITCZ) is normally positioned about 5°N of the equator. It shifts over the Ganga plains during summer. It is also known as the monsoon trough during the monsoon season.
- The high pressure area, east of Madagascar is approximately 20°S over the Indian Ocean. This area affects the Indian Monsoon.
- The Tibetan plateau gets intensely heated during summer. This results in strong vertical air currents and formation of high pressure over the plateau. This high pressure zone is about 9 km above the sea level.
- The westerly jet stream move to the north of the Himalayas, and the tropical easterly jet stream moves over the Indian Peninsula during summer.
- The periodic change in pressure conditions between Pacific Ocean and the Indian Ocean that is known as the Southern Oscillation or SO also affects the monsoon.
- The difference in pressure over Tahiti and Darwin is computed to predict the intensity of the monsoons. Tahiti (18°S/149°W) lies in the Pacific Ocean and Darwin (12°30'S/131°E) lies in northern Australia. If the pressure differences are negative, it means a below average and late monsoon.

<p align="center">OR</p>

A. Both the pressure and wind conditions over India are unique. The North of Himalayas has high pressure during winter season. Cold dry winds blow towards the low pressure areas over the oceans to the south.
B. The low pressure area develops over interior Asia as well as over northwestern India in summer season.
C. This causes a complete reversal of the direction of winds during summer.
D. Air blows from the high-pressure area over the southern Indian Ocean which crosses the equator in the south-easterly direction.
E. It turns right towards the low pressure areas over the Indian subcontinent. These winds are called the southern monsoon winds. These winds blow over the warm oceans gathering moisture and bring widespread rainfall over the mainland of India.