

KERALA PUBLIC SCHOOLS
ACADEMIC YEAR 2020-21
HOME ASSIGNMENT



CLASS : IX
DATE: 17.11.2020 to 2.12.2020

SUBJECT	ASSIGNMENT
MATHS	Chap-10 Circles [Ex-10.1, 10.2, 10.3, 10.4,10.5] Chap-11 Constructions [Ex-11.2]
SCIENCE	<p>BIOLOGY CH – 13. Why do we fall ill (Revision) Q1- Why do female mosquitoes need highly nutritious food in the form of Human blood? Ans. Female mosquitoes need highly nutritious food in the form of human blood to be able to lay mature eggs.</p> <p>Q2- What is meant by acute disease? Ans. Acute diseases are the diseases which last for very short periods of time. Ex.-common cold.</p> <p>Q3- Name the disease transmitted by animal bite. Ans. Rabies.</p> <p>Q4 Name a sexually transmitted disease caused by bacteria. Ans. Syphilis.</p> <p>Q5. Name the target organ of Japanese encephalitis and AIDS virus respectively. Ans. Brain and lymph nodes respectively.</p> <p>Q6. Why rabies virus is called neurotropic in nature Ans. Because its toxins damage the motor neuron of brain.</p> <p>Q7. What is antibiotic? Give one example. Ans. Antibiotic is a chemical substance produced by living organism such as bacteria, fungi etc., that can kill or stop the growth of some pathogenic microorganisms. Example – Streptomycin</p> <p>Q8. Name the disease which are caused by – (two for each) a) Virus b) Bacteria c) Protozoa Ans.a) Virus – AIDS and Polio b) Bacteria – Typhoid and Tuberculosis c) Protozoa – Malaria and Diarrhoea</p> <p>CHEMISTRY – CHAPTER 4 STRUCTURE OF THE ATOM</p> <ol style="list-style-type: none">1. Read the chapter thoroughly page (46 – 49) NCERT BOOK2. Do question no. 1 & 2 page 47 NCERT BOOK3. Do question no. 1,2,3,4 & 5 page 54 NCERT BOOK4. Answer the following questions : (Very Short Answer Type Questions.)

- (i) Who discovered the electron?
 - (ii) Name the fundamental particles of an atom.
 - (iii) What is the charge on cathode rays?
 - (iv) What is the charge on canal rays?
 - (v) What is the mass of a proton?
 - (vi) Where is the mass of an atom most concentrated?
 - (vii) Who discovered the nucleus of an atom?
 - (viii) What is a proton? Who discovered it?
 - (ix) Which metal was bombarded with alpha rays in Rutherford's experiment?
 - (x) What was the drawback of Rutherford's model of the atom?
5. Answer the following questions : (Short answer type questions.)
- (i) Name the constituents of an atom. What is the net charge on the nucleus of an atom?
 - (ii) Mention any two points Rutherford put forward to explain the nuclear model of an atom.
 - (iii) Why are the shells in which electrons revolve called energy levels?
 - (iv) Write any two observations of Rutherford's model of atom.
 - (v) What were the conclusions of Rutherford's alpha particle scattering experiment?

PHYSICS

Std 9 Ch 11- Work ,Energy and power (REVISION)

1. Revise the definitions/statements of work,energy and power.
2. Expressions for K.E and P.E revise over and over again.
3. Revise ,Law of conservation of energy and conservation of a free falling body at different heights.
4. Do the **NUMERICALS** given in the **NCERT** book. (Follow diksha app for more numericals and questions).
5. Learn the questions and answers given BELOW.

1.What is the work done in physics?

Ans- Work is said to be done if an applied force produces displacement in a body.

2. Read the following situation,

" **Child A is preparing for exam in his study room at his table. Child B climbs a tree several feet high on the ground. Who has done more work and why ?**

Ans - Child B has done more work because applied force and displacement are more that of child A.

3. A Student is writing a three hours science paper. How much work is done by the

	<p>student? Give reason to your answer. Ans - No work is done by the student as there is no displacement produced in any body.</p> <p>4. S.I unit of work. Ans- joule</p> <p>5. Express work done mathematically. Ans- work done = force x displacement. $W = fS$.</p> <p>6. Define one joule work. Ans - Work is equal to one joule if an applied force of one Newton produces a unit displacement in an object in its own direction.</p> <p>7. What would be the work done if - a) Force on the object is zero ? b) Displacement of the object is zero ? Ans- Each case work done will be zero .</p> <p>8. A 2m high person is holding a 25 kg trunk on his head and is standing at a roadways bus - terminus. How much work is done by the person ? Ans- Work done by person is zero because there is no displacement.</p> <p>9. A bullock is pulling a cart and the cart moves . Name the object which is doing work and the object on which work is done. Ans- Work is done by the bullock on the cart this means that the object being displaced is worked up and the object which applies force is doing the work.</p> <p>10. A coolie is walking on a railway platform with a load of 30kg on his head . How much work is done by the coolie? Ans- No work is done by the coolie because his displacement occurs in the horizontal direction while he applies force on a load in upward direction.</p>
<p>HINDI</p>	<p>हिन्दी भाषा</p> <p>समय बहुत मूल्यावान होता है। यह बीत जाए तो लाखों-करोड़ों रुपये खर्च करके भी इसे वापस नहीं लाया जा सकता। इस संसार में जिसने भी समय की कद्र की है, उसने सुख के साथ जीवन गुजारा है और जिसने समय की बर्बादी की, वह खुद ही बर्बाद हो गया है। समय का मूल्य उस खिलाड़ी से पूछिए, जो सेकंड के सौवें हिस्से से पदक चूक गया हो। स्टेशन पर खड़ी रेलगाड़ी एक मिनट के विलंब से छूट जाती है। आजकल तो कई विद्यालयों में देरी से आने पर विद्यालय में प्रवेश भी नहीं करने दिया जाता। छात्रों को तो समय का मूल्य और भी अच्छी तरह समझ लेना चाहिए, क्योंकि इस जीवन की कद्र करके वे अपने जीवन के लक्ष्य को पा सकते हैं।</p> <p>(क) उपरोक्त गद्यांश में कीमती किसे माना गया है?</p> <p>ख) किसने सुख के साथ जीवन गुजारा</p> <p>ग) सेकंड के सौवें हिस्से से पदक कौन चूक जाता है ?</p> <p>घ) छात्रों को समय की कद्र करने से क्या लाभ होता है?</p> <p>(ङ) इस गद्यांश का उपयुक्त शीर्षक होगा</p>

हिन्दी साहित्य रीढ़ की हड्डी (जगदीशचंद्र बसु)

इस एकांकी का क्या उद्देश्य है? लिखिए।

Answer:

इस एकांकी का उद्देश्य समाज में औरतों की दशा को सुधारना व उनको उनके अधिकारों के प्रति जागरूक कराना है। यह एकांकी उन लोगों की तरफ अँगुली उठाती है जो समाज में स्त्रियों को जानवरों या सामान से ज्यादा कुछ नहीं समझते। जिनके लिए वह घर में सजाने से ज्यादा कुछ नहीं है यह औरत को उसके व्यक्तित्व की रक्षा करने का संदेश देती है और कई सीमा तक इस उद्देश्य में सफल भी होती है।

रामस्वरूप का अपनी बेटी को उच्च शिक्षा दिलवाना और विवाह के लिए छिपाना, यह विरोधाभास उनकी किस विवशता को उजागर करता है?

Answer:

रामस्वरूप एक आजाद पसंद व्यक्ति थे। उनके अनुसार स्त्री शिक्षा में कोई बुराई नहीं अपितु उनके विकास के लिए यह आवश्यक है। यही कारण था कि उन्होंने अपनी पुत्री को विकास के सारे रास्ते दिए जिसके कारणवश उनकी पुत्री B.A कर सकी। वह गुणी भी थी, संगीत शिक्षा, सिलाई-कढ़ाई में भी निपुण थी। यह बातें रामस्वरूप के खुले विचारों की ओर इशारा करते हैं। परन्तु विडम्बना देखिए कि उन्होंने जहाँ उन्मुक्त भाव से अपनी पुत्री को शिक्षा दी थी वहीं समाज की संकुचित मानसिकता के कारण अपनी पुत्री के विवाह के लिए उसकी शिक्षा को छुपाना चाह रहे थे। यह एक मजबूर पिता की ओर इशारा करता है जो समाज की दकियानूसी सोच के आगे झुकने पर विवश हो जाता है।

गोपाल प्रसाद विवाह को 'बिज़नेस' मानते हैं और रामस्वरूप अपनी बेटी की उच्च शिक्षा छिपाते हैं। क्या आप मानते हैं कि दोनों ही समान रूप से अपराधी हैं? अपने विचार लिखें।

Answer:

दोनों ही समान रूप से अपराधी हैं। गोपाल प्रसाद जी के लिए विवाह बिज़नेस (व्यापार-धंधे) कि तरह है। विवाह की पवित्रता और उसका मूल्य उनके लिए सौदे से कम नहीं था। वह अपने बेटे का विवाह करवा कर एक ऐसी पुत्रवधू लाना चाहते थे जो उनके इशारों पर चले। वे सौदा करने से पहले उसकी जाँच पड़ताल कर तसल्ली कर लेना चाहते थे कि सौदा सही भी है या नहीं। उनके लिए वस्तु और लड़की में कोई अंतर नहीं था।

दूसरी तरफ रामस्वरूप जी अपनी पुत्री को उच्च शिक्षा प्राप्त करवाते हैं। उन्हें इस बात से गर्व भी है, परन्तु उसके विवाह के लिए उसकी शिक्षा को छुपाने की कोशिश करते हैं। माना इन सब में उनकी मजबूरी है परन्तु ये तर्कसंगत नहीं लगता कि ऐसे घर में अपनी शिक्षित लड़की का हाथ सौंपने को तैयार हो गए जहाँ उनकी पुत्री व उसकी शिक्षा का मोल ही न हो। इस तरह से स्वयं समाज को बदलना और बाद में अपने स्वार्थ हित या मजबूरी से उसकी संकीर्णता में शामिल होना पूर्णरूप से गलत है और उस पर झूठ बोलना बिल्कुल तर्कसंगत नहीं लगता।

“...आपके लाड़ले बेटे की रीढ़ की हड्डी भी है या नहीं...” उमा इस कथन के माध्यम से शंकर की किन कमियों की ओर संकेत करना चाहती है?

Answer:

उमा गोपाल प्रसाद जी के विचारों से पहले से ही खिन्न थी। परन्तु उनके द्वारा अनगिनत सवालोंने उसे क्रोधित कर दिया था। आखिर उसे अपनी चुप्पी को तोड़कर गोपाल प्रसाद को उनके पुत्र के विषय में अवगत करना पड़ा।

(1) शंकर एक चरित्रहीन व्यक्ति था। जो हमेशा लड़कियों का पीछा करते हुए होस्टल तक पहुँच जाता था। इस कारण उसे शर्मिंदा भी होना पड़ा था।

(2) दूसरी तरफ़ उसकी पीठ की तरफ़ इशारा कर वह गोपाल जी को उनके लड़के के स्वास्थ्य की ओर संकेत करती है। जिसके कारण वह बीमार रहता है तथा सीधी तरह बैठ नहीं पाता।

(3) शंकर अपने पिता पर पूरी तरह आश्रित है। उसकी रीढ़ की हड्डी नहीं है अर्थात् उसकी अपनी कोई मज्जी नहीं है।

शंकर जैसे लड़के या उमा जैसी लड़की – समाज को कैसे व्यक्तित्व की ज़रूरत है? तर्क सहित उत्तर दीजिए।

Answer:

उमा जैसी लड़की ही समाज के लिए सही व्यक्तित्व है। वह निडर है, साहसी भी है। जहाँ एक ओर माता-पिता का सम्मान रखते हुए वह गोपाल प्रसाद जी व उनके लड़के शंकर के सम्मुख खड़ी हो जाती है, उनके कहने पर वह गीत भी गाती है तो दूसरी तरफ़ निर्भयता पूर्वक गोपाल जी को उनकी कमियों का एहसास कराते हुए तनिक भी नहीं हिचकती। उसमें आत्मसम्मान की भावना है। उसी आत्मसम्मान के लिए वह अपना मुँह भी खोलती है।

रीढ़ की हड्डी' शीर्षक की सार्थकता स्पष्ट कीजिए।

Answer:

यह शीर्षक एकांकी की भावना को व्यक्त करने के लिए बिल्कुल सही है। इस शीर्षक में समाज की सड़ी-गली मानसिकता को व्यक्त किया गया है तथा उसपर प्रहार किया है। क्योंकि रीढ़ शरीर का मुख्य हिस्सा होता है, वही उसको सीधा रखने में मदद करता है। उसमें लचीलापन होता है, जो शरीर को मुड़ने, बैठने, झुकने कूदने में मदद करता है। इस लचीलेपन के कारण ही शरीर हर कार्य करने में सक्षम है। व्यायाम के माध्यम से रीढ़ की हड्डी के लचीलेपन को बनाए रखते हैं। उसी तरह समय के अनुसार पुरानी रीतियों और परंपराओं का बदलना आवश्यक है। यह समय की माँग होती है। जब यह रीतियाँ या परंपराएँ मनुष्य के हित के स्थान पर उसका अहित करने लगे, तो वे विकार बन जाती हैं। यह एकांकी समाज में व्याप्त इन विकारों पर कटाक्ष करता है। हमारा समाज इन मानसिकताओं का गुलाम बनकर बिना रीढ़ वाला शरीर हो जाता है। दूसरी तरफ़ यहाँ शंकर जैसे लड़कों से भी यही तात्पर्य है बिना रीढ़ का। इस प्रकार के लड़कों का अपना कोई व्यक्तित्व नहीं होता और न ही इनका कोई चरित्र होता है। ये सारी उम्र दूसरों के इशारों पर ही चलते हैं। ये लोग समाज के ऊपर सिवाए बोझ के कुछ नहीं होते। इसलिए उमा ने इसे बिना रीढ़ की हड्डी वाला कहा है।

ENGLISH

Topic

1. Happy Prince

2. The Snake Trying

3. Modals

Chapter - Happy Prince (Prose) Moments

Q1. Why do the courtiers call the prince 'The Happy Prince'? Is he really happy? What does he see all around him?

Ans. The prince was called the 'Happy Prince' because all his life, he had lived in happiness. After his death, his statue was put up in the middle of the town. From there he could see the plight of the people which made him unhappy. The sight of poor, sad people made him unhappy.

Q2. Why does the Happy Prince send a ruby for the seamstress? What does the swallow do in the seamstress' house?

Ans. The happy prince saw that the poor seamstress was tired and had no money to look after her ill son. He thought of helping her by sending her the ruby. The swallow placed the ruby stone on the worktable next to the thimble. Then it flew over to the sick child who was uneasy. As his mother had dozed off while working, and the boy was feeling hot, the swallow flapped its wings to give him some air. This comforted the boy and put him to sleep.

Q3. What does the swallow see when it flies over the city?

Ans. The swallow bird saw the rich making merry in their beautiful houses, while the beggars were sitting at the gates. He flew into dark lanes, and saw the white faces of starving children looking out listlessly at the black streets. Under the archway of a bridge two little boys were lying in each other's arms trying to keep themselves warm. They were hungry. They ran away from there when the watchman shouted at them.

Q4. Why did the swallow not leave the prince and go to Egypt?

Ans. The swallow bird did not leave the prince as it loved him. As the statue was blind, the bird wanted to remain with it.

Q5. What are the precious things mentioned in the story? Why are they precious?

Ans. The two precious things are the dead swallow bird and the statue's broken heart. According to God, they were precious because in the garden of paradise, the little bird shall sing for ever more and in heaven, the Happy Prince's heart shall praise God.

Q6. For whom does the prince send the sapphires and why?

Ans. The playwright was very poor. He was incapable of buying food and firewood. The prince sent the sapphires for the playwright so that he could finish a play for the director of the theatre in time. The prince sent his second sapphire to a poor match girl. Her matches had fallen into the gutter. She was afraid that her father would beat her for this loss. So, she was helped by the prince by sending her the second sapphire.

Q7. Describe the statue of the Happy Prince as described in the beginning of the

story ?

Ans. At the beginning of the story the statue was fixed on a tall column, full of thin leaves of gold on the body, and had two sapphires for eyes. It had a large red ruby fixed on the hilt of the sword.

Q8. In the story “The Happy Prince” what are the two most precious things ? What makes them so precious ?

Ans. The two most precious things were the leaden heart of the Happy Prince and the dead swallow. The former wept for the poor and helped them by giving sapphires, gold leave and ruby. While the latter helped the prince in his noble cause and sacrificed her life while staying with him.

Q9. How did the little swallow carry out the wishes of the Happy Prince ?

Ans. The swallow wanted to go to Egypt just like his friends who had already gone there. He had rested • at the base of the statue of the Happy Prince for just a night. He postponed his trip as he had to carry a ruby to the needy playwright and another to the seamstress. When the Happy Prince gave the sapphire from his eye to the match girl he became blind. So the swallow decided to stay there and help the needy just like the prince. The swallow died carrying out the wishes of the Happy Prince in the service of the needy.

Q10. What is the moral of the story The Happy Prince ?

Ans. The moral of the story is that we must help the poor and the needy. The prince set an example of this by giving his jewels to the poor. The swallow also proved to be a great example of love and sacrifice.

The Snake Trying (Poem) Beehive

Q1.What is the snake trying to escape from?

Ans.The snake is trying to escape from the pursuing stick. Human beings try their level best to kill the snake. They take it for granted that the snake is poisonous and harmful.

Q2. Is it a harmful snake? What is its colour?

Ans. No, it is not harmful. It is a green snake.

Q3.The poet finds the snake beautiful. Find the words he uses to convey its beauty.

Ans.The poet uses the following words: beautiful and graceful, glides, small and green.

Q4.What does the poet wish for the snake?

Ans. The poet wishes that the snake should be allowed to go. It should not be killed by the man.

Q5. Where was the snake before anyone saw it and chased it away? Where does the snake disappear?

Ans. The snake was away from its secure area. It was basking in the sun along the sand. Finally, it disappears in the reeds.

Q6. How does the snake protect itself? What kind of body does it have?

Ans. The snake has a natural instinct of survival. He can smell and see dangers and escape from them safely. The snake moves with sudden curvings gliding through the water to protect itself from the attack. He has a thin long body.

Q7. How does the poet describe its shapes?

Ans. Even a dangerous and venomous creature like a snake has its fascinating appeal and beauty. The poet says that the snake makes beautiful and graceful shapes. It is mesmerized to see the zig-zag walk of the snake.

Q8. What does the poet appeal?

Ans: Every creature demands our sympathy and protection. The snake is small and green and is harmless even to the children. The poet is a very kind and generous man. He is sympathetic to the snake. So it appeals to let it go safely to his place.

Q9. Where does the snake vanish?

Ans. The snake does possess the instinct of survival. With sudden curvings of its body, he can escape from the stick aimed at him. The snake vanishes in the ripples among the green thin reeds.

Q10. Describe the natural beauty of the snake. Is the poet fascinated by it?

Ans. It is a small snake. It is green in colour. Curvings of its long body have their own appeal. His shapes are graceful and beautiful. So are its movements. The harmless, graceful and beautiful snake attracts the admiration and sympathy of the poet.

Value based question

Question .

Do you agree that a snake does not want to bite a man, it bites a man only when it feels that he is going to kill it?

Answer:

I agree with this statement that a snake does not want to bite man, unless it feels that a man is going to kill it. But people are of the opinion that all snakes are poisonous and it is their nature to bite a man. So, they want to kill it.

Modals (Grammar)

A **modal verb** is an auxiliary verb that expresses necessity or possibility.

An **auxiliary verb**, also called a helping verb, “helps” other verbs show moods and tenses. Auxiliary verbs include forms of *do*, *be*, and *have*.

The most common modal verbs include *must*, *shall*, *will*, *should*, *would*, *can*, *could*, *may*, and *might*.

Modal verbs are different from other verbs in a few ways:

- You don’t add an “s” to form the **third-person present tense**. You wouldn’t say he cans, she cans, etc.
- They also don’t have **infinitive forms**. I’m canning, I’m woulding, etc. would not be correct.
- Modal verbs are followed by a **base verb** (the plain, dictionary definition of a verb, like *jump*, *help*, *sing*, *play*, or *read*).

Examples of Modal Verbs

Example 1

You **should** *stop* biting your fingernails.

- This example uses the modal verb “should.”
- “Should” is used to express advice about biting fingernails.
- The base verb “stop” follows the modal verb “should.”

Example 2

You **must** *take* out the trash before dinner.

- The modal verb “must” is included in this sentence.
- In this example, “must” is used to express a necessity or obligation.
- The modal verb “must” is followed by the base verb “take.”

Example 3

Joey **might** *play* soccer instead of basketball next year.

- This sentence uses the modal verb “might.”
- “Might” is used to express possibility in this example.
- The modal verb “might” is followed by the base verb “play.”

Exercise

I. Drag and choose the correct option.

1. There are plenty of tomatoes in the fridge. You buy any.
2. It's a hospital. You smoke.

3. He had been working for more than 11 hours. He be tired after such hard work. He prefer to get some rest.
4. I speak Arabic fluently when I was a child and we lived in Morocco. But after we moved back to Canada, I had very little exposure to the language and forgot almost everything I knew as a child. Now, I just say a few things in the language.
5. The teacher said we read this book for our own pleasure as it is optional. But we read it if we don't want to.
6. you stand on your head for more than a minute? No, I .
7. If you want to learn to speak English fluently, you to work hard.
8. Take an umbrella. It rain later.
9. You leave small objects lying around . Such objects be swallowed by children.
10. People walk on grass.
11. Drivers stop when the traffic lights are red.
12. I ask a question? Yes, of course.
13. You take your umbrella. It is not raining.
14. you speak Italian? No, I .

II. Choose the correct option:

Q.1. Hebe given warm welcome if he wins the tournament.

- (A) will
- (B) shall

Q.2. It is possible that Christopher Marlowehave written plays for Shakespeare.

- (A) might
- (B) could

Q.3 Childrennot go to the roof at night.

- (A) dare
- (B) Can

Q.4. The daughter asked her mother if shego out.

- (A) would
- (B) might

Q.5. Sheread a book while watching TV during her school days.

- (A) would

	<p>(B) could</p> <p>Q.6. Speak slowly lest youawake the child.</p> <p>(A) should (B) would</p> <p>Q.7. Hepass this time as he has worked satisfactorily hard.</p> <p>(A) may (B) can</p> <p>Q.8. Childrentake tea at night.</p> <p>(A) should (B) must</p> <p>Q.9. She said that sheprepare dinner herself.</p> <p>(A) will (B) would</p> <p>Q.10. She came here so that she meet her child.</p> <p>(A) may (B) might</p>
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<p>SOCIAL STUDIES</p>	<p><u>Chapter- Climate</u></p> <ol style="list-style-type: none"> 1. Read the chapter paragraph wise. Underline the difficult words and write it in your note book to learn. 2. Write the following section-I NCERT Questions and Answers in your notebook. 3. Write the following section - II Very short type Question and Answers in your notebook. 4. Write the following section - III Short type Question and Answers in your notebook. 5. Write the following section- IV Long type Question and Answers in your notebook. <p><u>SECTION- I</u> <u>NCERT QUESTIONS AND ANSWERS</u></p> <p>Question 1. Choose the correct answer from the four alternatives given below.</p> <p>(i) Which one of the following places receives the highest rainfall in the world?</p> <p>(a) Silchar (b) Mawsynram (c) Cherrapunji (d) Guwahati</p> <p>Answer : (b) Mawsynram</p>
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(ii) The wind blowing in the northern plains in summers is known as:

- (a) Kaal Baisakhi
- (b) Loo
- (c) Trade Winds
- (d) None of the above

Answer : (b) Loo

(iii) Which one of the following causes rainfall during winters in north-western part of India.

- (a) Cyclonic depression
- (b) Retreating monsoon
- (c) Western disturbances
- (d) Southwest monsoon

Answer :(a) Cyclonic depression

(iv) Monsoon arrives in India approximately in:

- (a) Early May
- (b) Early July
- (c) Early June
- (d) Early August

Answer : (c) Early June

(v) Which one of the following characterises the cold weather season in India?

- (a) Warm days and warm nights
- (b) Warm days and cold nights
- (c) Cool days and cold nights
- (d) Cold days and warm nights

Answer :(c) Cool days and cold nights

Question 2. Answer the following questions briefly.

(i) What are the controls affecting the climate of India?

Answer (i)The elements affecting the climate are temperature, atmospheric pressure, wind, humidity and precipitation.

(ii) Why does India have a monsoon type of climate?

Answer:

India comes in the Inter Tropical Convergence Zone (ITCZ) also with various other factors, like the El Nino, Jet Stream and Coriolis Force are the reasons for monsoon type of climate in India.

(iii) Which part of India does experience the highest diurnal range of temperature and why?

Answer : (iii)Northwestern part of India experiences the highest diurnal range of temperature. This happens because of the presence of the Thar Desert and also because this region does not have the moderating influence of the ocean.

(iv) Which winds account for rainfall along the Malabar coast?

Answer : (iv)Malabar Coast gets rains from depressions and cyclones.

(v) What are Jet streams and how do they affect the climate of India?

Answer : (v)Jet streams are high velocity westerly winds blowing through a narrow zone in the upper troposphere. The westerly flows are responsible for the western disturbances experienced in the north and north-western parts of the country. The easterly jet streams cause tropical depressions during the monsoon as well as October-November months.

(vi) Define monsoons. What do you understand by “break” in monsoon?

Answer :(vi)Monsoon refers to the seasonal reversal in the wind direction. Monsoon ‘break’ refers to the happening of wet and dry spells during the rainy season. The monsoon rains take place only for a few days at a time.

(vii) Why is the monsoon considered a unifying bond?

Answer :(vii)Although there are wide variations in weather patterns across India, the monsoon brings some unifying influences on India. The Indian landscape, its flora and fauna, etc. are highly influenced by the monsoon.The entire agricultural calendar in India is governed by the monsoon.Most of the festivals in India are related to agricultural cycle. These festivals may be known by different names in different parts of the country, but their celebration is decided by the monsoon.

Question 3. Why does the rainfall decrease from the east to the west in Northern India.

Answer :The Bay of Bengal branch of the monsoon winds moves towards northeast and return westwards covering the northern plains. While they move towards west, their moisture contains tends to reduce with subsequent rains. Hence the rainfall decreases from east to west in northern India.

Question 4. Give reasons as to why.

(i) Seasonal reversal of wind direction takes place over the Indian subcontinent?

Answer : (i) Seasonal reversal of wind direction over the Indian subcontinent takes place due to pressure differential. El Nino has major role to play in the seasonal reversal of wind direction over the Indian subcontinent.

(ii) The bulk of rainfall in India is concentrated over a few months.

Answer : (ii) The monsoon begins from the first week of June and advances quite rapidly to cover almost the whole country by mid-July. Hence, the bulk of rainfall in India is concentrated over the months of a few months; mainly June to August.

(iii) The Tamil Nadu coast receives winter rainfall.

Answer : (iii) The Tamil Nadu coast receives winter rainfall because of movement of low-pressure conditions to the Bay of Bengal.

(iv) The delta region of the eastern coast is frequently struck by cyclones.

Answer (iv) The Bay of Bengal is the centre of various pressure changes and hence there is always a chance of development of cyclone. Due to this, the delta region of the eastern coast is frequently struck by cyclones.

(v) Parts of Rajasthan, Gujarat and the leeward side of the Western Ghats are drought-prone.

Answer : (v) The parts fall in the rain shadow area of the Aravalli. Hence, they are drought prone and don't receive much of rainfall.

Question 5. Describe the regional variations in the climatic conditions of India with the help of suitable examples.

Answer :

There is regional variation in the climatic conditions of India. Temperature and Precipitation vary from place to place and season to season.

→ In summers the temperature rises up to 50°C in parts of Rajasthan, whereas it may be around 20°C in Pahalgam in Kashmir.

→ In winters night temperature in Srinagar in Kashmir may be minus 45°C, whereas in Tiruvananthapuram in Kerala may have a temperature of 20°C.

→ In Andaman Islands the difference between day and night temperature may be hardly 7° – 8°C.

→ Coastal areas experience less contrast in the temperature, whereas seasonal contrasts are more in the interior of the country.

→ There is decrease in rainfall generally from east to west in the northern plains.

→ Most part of India get rainfall from June – September, whereas Coromandel Coast gets rainfall in winter season.

Question 6. Discuss the mechanism of monsoons.

Answer :

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 moves 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.

Question 7. Give an account of weather conditions and characteristics of the cold season.

Answer :

Following are the features of the cold season:

- The winter season begins from mid-November and till February; in northern India.
- December and January are the coldest months in the northern part of India.
- The temperature ranges between 10°-15°C in the northern plains, while it ranges between 24°-25°C in Chennai.
- The northeast trade winds prevail over the country in this season. As these winds blow from land to sea, most parts of the country experience a dry season.
- The weather is usually marked by clear sky, low temperatures and low humidity and weak variable winds.
- The inflow of the cyclonic disturbances from the west and the northwest is a characteristic feature of the cold weather over the northern plains.
- These low-pressure systems originate over the Mediterranean Sea and Western Asia and move into India. They cause winter rains over the plains and snowfall in the mountains.
- The winter rainfall is in small amount but is very important for the rabi crop. This rainfall is locally known as mahawat.
- The peninsular region does not get a well-defined winter because of the moderating influence of the sea.

Question 8. Give the characteristics and effects of the monsoon rainfall in India.

Answer :

Characteristics of the monsoon rainfall in India:

- The duration of the monsoon varies from 100 to 120 days from early June to mid-September.
- Around the time of its arrival, the normal rainfall increase suddenly and continues regularly for several days. This is called the 'burst' of the monsoon.
- They are distinguished from the pre-monsoon showers because of their increase in rainfall amount and regularity.
- The monsoon arrives at the southern tip of the Indian Peninsular generally by the first week of June.
- The rainfall is unevenly distributed across the country.

Effects of the monsoon rainfall in India:

- Agriculture in India largely depends on Indian monsoons for water. Late, Low or excessive rains have a negative impact upon crops.
- Due to uneven distribution of rainfall across the country, there are few places that are drought prone and few are flood affected.
- The monsoon provides India with a diverse climatic pattern. Hence, in spite of the presence of great regional variations, it has a unifying influence upon the country and its people.

SECTION-II

VERY SHORT QUESTIONS AND ANSWERS

Question 1.

What is a jet stream?

Answer:

A jet stream is a fast blowing wind blowing in a narrow zone in the upper atmosphere.

Question 2.

'The peninsular region does not have a well defined cold season.' Give reason.

Answer:

Due to the moderating influence of the sea, the peninsular region does not have a well defined cold season.

Question 3.

Name two states where mango showers are common. [CBSE 2000(B)]

Answer:

Kerala and Karnataka.

Question 4.

Name two states on the eastern coast which are frequently struck by the tropical cyclones.

Answer:

Andhra Pradesh and Tamil Nadu.

Question 5.

What is meant by breaking of monsoon or burst of the monsoon?

Answer:

The rain bearing monsoons are extremely strong and violent. Their approach is accompanied by thunder and lightning. This is known as the Wreaking of monsoon.

SECTION -III
SHORT TYPE QUESTIONS AND ANSWERS

Questions.1.

Give reasons as to why:

- (i) Seasonal reversal of wind direction takes place over the Indian subcontinent.
- (ii) The bulk rainfall in India is concentrated over a few months.
- (iii) The Tamil Nadu coast receives winter rainfall.
- (iv) The delta region of the eastern coast is frequently struck by cyclones.
- (v) Parts of Rajasthan, Gujarat and the leeward side of the Western Ghats are drought prone.

Answer:

(i)

During winter, there is a high pressure area over north of the Himalayas. Whereas, there is low pressure area over the ocean to the south. So cold and dry winds blow from the Himalayan region towards the ocean.

During summer, a low pressure area develops over the interior, Asia as well as over the Northwestern India. This causes a complete reversal of the direction of winds during summer.

(ii)

Most parts of India receive rainfall from the south-west monsoons which blow in India only between June to September.

Only the eastern coast of India receives some rainfall from the North-East trade winds during the cold weather season.

It is because Tamil Nadu gets rain from the north-east monsoons which reach there after passing over the Bay of Bengal, after picking moisture from there.

(iv)

In the mid-October, the mercury begins to fall at a rapid speed in Northern India.

The low pressure conditions of the North shift to the Bay of Bengal by November. This shift causes cyclonic depressions in the Andaman Sea.

These cyclonic depressions give rise to tropical cyclones which cause heavy and widespread rains in the deltas of the Godavari, the Krishna and the Kaveri.

(v)

Rajasthan does not receive much rain because the Aravalli Range which lies parallel to the direction of the winds and hence condensation does not occur.

Gujrat receives less rainfall because there are no hills and mountain ranges. The leeward side of the Western Ghats receives less rainfall because when air descends, it gets warmed up. Due to its rising temperature, the relative humidity of air decreases, and the air turns from a saturated state to an unsaturated state. Due to this fact, no rainfall occurs on the leeward side.

SECTION- IV
LONG TYPE QUESTIONS AND ANSWERS

Question 1.

Describe the role of El Nino and Southern Oscillation to control the climate of India.

Answer:

The periodic change in pressure conditions in eastern Pacific and eastern Indian Ocean is known as the Southern Oscillation. The difference in pressure in the Indian and Pacific Oceans is computed to predict the intensity of the monsoons. Negative pressure differences predict below average and late Monsoons. This affects the El Nino, a warm current which flows along the Peruvian current instead of the cold current. The changes in pressure conditions are connected to the EL Nino.

Question 2.

Why is the distribution of rainfall uneven in India? Mention any five factors?

Answer:

The distribution of rainfall is uneven in India because:

- (a) Relief: The Western Ghats receives heavy rainfall. The Arabian sea branch of the South-West monsoon, which are moisture laden winds, causes very heavy rainfall when they strike the Western Ghats. Mawsynram gets more rain due to its relief. It gets rain from the Bay of Bengal branch of the South-West monsoon.
- (b) Distance from the Sea: Places near the coastal region get more rainfall than the places situated far away from the sea.
- (c) Direction of the Winds: Rajasthan get scanty rainfall due to Arabian sea Branch blowing parallel to the Aravalli hills.
- (d) Inter-Tropical Convergence Zone (ITCZ): It is also known as monsoon trough during the monsoon season. The trough and its axis keep on shifting, northward or southward, which determines the spatial distribution of rainfall. When the trough lies over the plains, rainfall is over this region. When the axis shift closer to the Himalayas, there is a dry spell over the plains and widespread rainfall in mountainous catchment area.
- (e) Cyclonic disturbances: The occurrence of cyclonic depressions, which originate over Andaman Sea, generally cross the eastern coasts of India cause heavy and widespread rain in deltas of the Godavari, the Krishna and the Kaveri, coasts of Odisha and West Bengal.

DRAWING

Topic- pencil shading
 Complete this drawing in your school drawing copy.

Observe gradation from light to dark tone.



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