EAST POINT SCHOOL

CLASS-9TH BIOLOGY

Chp- Tissue

Extra short questions

Q1: Name the chemical released by cork cells?

Answer: Suberin which makes them impervious to gases and water.

Q2: How are complex tissues different from simple tissues?

Answer: Complex tissues are made up of more than one type of cells. but simple tissue are made of one type of cell .

Q3: Name two types of complex tissues.

Answer: Xylem and Phloem

Q4: Why are Xylem and Phloem are called vascular or conducting tissues?

Answer: Since both xylem and phloem tissues transport materials, they are together called vascular tissues.

Q5: Which plant tissue is considered to have played an important role in the survival of terrestrial plants?

Answer: Vascular tissue i.e. xylem and phloem.

Q6: Why vascular tissue is considered a distinctive feature responsible for the survival of plants in terrestrial plants?

Answer: Fossils of plants show that vascular tissue appears 400 million years ago. It is believed that aquatic plants moved to terrestrial environment and adaptations like vascular tissue, protected seeds, true roots formation etc. helped in their survival.

1. Vascular tissues transport water and minerals throughout a plant. because of this adaptation, water absorbed by roots is able to reach to different parts of the plant. Thus water balance is maintained properly inside plant body. Similarly, food prepared by leaves by photosynthesis is transported to all parts of the plants.
2. Vascular tissue also provides structural support to the plant. Vascular tissues form a sort of skeleton and provide support to root, stem and leaves. It also enables the plant to grow upright i.e. become taller.

Q7: Is xylem (or phloem) homogenous tissue or heterogeneous tissue?

Answer: Xylem and phloem both are heterogeneous tissue and are made up of different type of cellular

elements.

Q8: List the cellular elements of xylem tissue?

Answer: Four types:

1. Xylem tracheid's
2. Xylem tracheae or vessels
3. Xylem fibres and
4. Xylem parenchyma

Q9: What is the role of xylem tissue?

Answer: Xylem tissues are specialized for the conduction of water and mineral substances in the plant body.

1. Tracheid's and vessels form tubular structures to transport water and minerals vertically (unidirectional).
2. Xylem parenchyma stores food and helps in the sideways conduction of water.
3. Fibres are mainly supportive in function.

Q10: Name the cellular elements of Phloem tissue.

Answer: Four types:

1. Sieve tubes
2. Companion cells
3. Phloem parenchyma and
4. Phloem fibres

Q11: List functions of phloem tissue?

Answer:

1. Phloem transport food in both directions.
2. Sieve tubes and companion cells are involved in translocation of organic substances.
3. Phloem parenchyma and phloem fibres play supporting role in the transportation process.

Q12: Which Phloem cellular element has a tubular structure with perforated walls?
Answer: Sieve tubes

Q13: Why are Xylem and Phloem known as conducting tissues?

Answer: Because both of them help in the conduction of water, mineral and food.

Q14: Why are Xylem and Phloem called as vascular tissues?

Answer: Because they together constitute vascular bundle in plants.

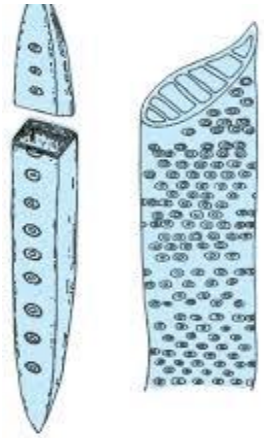
Q15: Why are Xylem and Phloem known as complex permanent tissues?

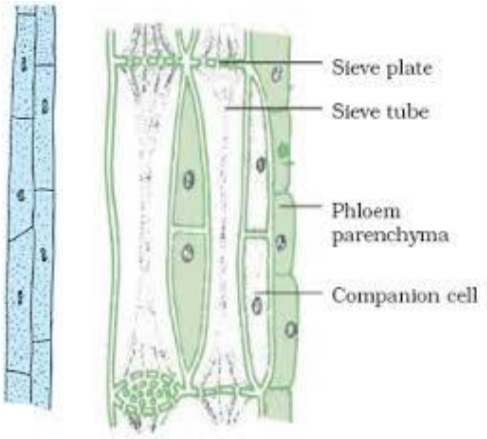
Answer: Because both of them are made of more than one type of cells (heterogeneous).

Q16: Why do meristematic cells lack vacuoles?

Answer: The purpose of vacuole is to store food and waste product. Since meristems are young cells and are actively dividing, they do not participate actively in food preparation. Neither they produce large waste and hence lack vacuoles.

DIAGRAM --- XYLEM PHLOEM





TRACHEIDS VESSELS XYLEM PHLOEM

PARENCHYMA

XYLEM

VIDEO LINK:-https://youtu.be/vJc6dhba0Sw

East point school
Week 9 chapter 2
Class 9
chem

The components of a heterogeneous mixture can be separated by

- ***simple methods like-***

  hand picking , sieving , & Winnowing

- ***special techniques like-***

  i) Evaporation : a mixture of salt and water or sugar andwater.

  ii) Centrifugation : Butter from curd, Fine mud particles suspended inwater.

  iii) Decantation (Using separating funnel) : Oil fromwater.

  iv) Sublimation : Camphor fromsalt,

  v) Chromatography : Different pigments from an extract of flowerpetals.

  vi) Distillation and fractional distillation : Separating components ofPetroleum

  viii) Magnetic separation: Iron pins from sand.

Answer the following

Q.1 Name the process you would use to:

i) recover sugar from an aqueous sugarsolution.

ii) separate mixture of salt solution andsand.

Q.2 How will you separate a mixture of sand , water and mustard oil?

VIDEO LINK: https://youtu.be/ZNnMSxEGTJk

Class: IXth **Subject: Social Science (Economics)**

Chapter 2: People as Resources 23rdMay 2020

Unemployment

Unemployment is said to exist when people who are willing to work at the going wages cannot find jobs.The workforce population includes people from 15 years to 59 years.

In case of India we have unemployment in **rural and urban areas**.

In case of **rural areas**, there is **seasonal** and **disguised unemployment**.

Urban areas have mostly **educated unemployment**.

Seasonal unemployment happens when people are not able to find jobs during some months of the year. People dependents upon agriculture usually face such kind of problem.

There are certain busy seasons when sowing, harvesting, weeding and threshing is done. Certain months do not provide much work to the people dependent on agriculture.

In case of **disguised unemployment** people appear to be employed. They have agricultural plot where they find work.This usually happens among family members engaged in agricultural activity.

The work requires the service of five people but engages eight people. Three people are extra. These three people also work in the same plot as the others.

The contribution made by the three extra people does not add to the contribution made by the five people.

If three people are removed the productivity of the field will not decline. The field requires the service of five people and the three extra people are disguised unemployed.

In case of **urban areas educated unemployment** has become a common phenomenon. Many youth with matriculation, graduation and post-graduation degrees are not able to find job.

A study showed that unemployment of graduate and post-graduate has increased faster than among matriculates.

A paradoxical manpower situation is witnessed as surplus of manpower in certain categories coexist with shortage of manpower in others.

There is unemployment among technically qualified person on one hand, while there is a dearth of technical skills required for economic growth.

Subject:-Social Science (Economics) Class:- IX

Chapter2:- People as Resource Assignment No.:-3

1) **How will you explain the term unemployment?** **(1)**
2) **In which sector disguised unemployment is mostly found?** **(1)**
3) **State the two types of unemployment exits in rural India.** **(1)**
4) **Which type of unemployment generally exits in urban areas.** **(1)**
5) **Define educated unemployment.** **(1)**
6) **Explain the term "Paradoxical manpower situation".** **(1)**
7) **Mention one of the major causes of unemployment of in India.** **(1)**
8) **What is the difference between disguised unemployment and seasonal unemployment?** **(3)**

Video Link

https://www.youtube.com/watch?v=uPJV_HiY0TM

https://www.youtube.com/watch?v=N8A-ipunSP4

https://youtu.be/uCisz4yL9Ms

https://youtu.be/MgJ0O_maiMU

https://www.youtube.com/watch?v=P9CGuzZ8_ek

https://www.youtube.com/watch?v=_rcEI6bc38I

https://www.youtube.com/watch?v=P9CGuzZ8_ek

https://www.youtube.com/watch?v=_rcEI6bc38I

https://www.youtube.com/watch?v=rpm7vSTFdkc

https://www.youtube.com/watch?v=GrcRY1GzFDI

COMPREHENSION & GRAMMAR

I. In our families there are the heads; some of them are successful, others are not. Why? We complain of others in our failures. The moment I am unsuccessful, I say, so-and-so is the cause of the failure. In failures, one does not like to confess one's own faults and weaknesses. Each person tries to hold himself faultless and lay the blame upon somebody or something else, or even on bad luck. When heads of families fail, they should ask themselves, why it is that some persons manage a family so well and others do not. Then, you will find that the difference is owing to the man—his presence, his personality.

II. Coming to great leaders of mankind, we always find, that it was the personality of the man that counted. Now, take all the great authors of the past, the great thinkers. Really speaking, how many thoughts have they thought? Take all the writings that have been left to us by the past leaders of mankind; take each one of their books and appraise them. The real thoughts-new and genuine that have been thought in this world up to this time, amount to only a handful. Read in their books the thoughts they have left to us. The authors do not appear to be giants to us, and yet we know that they were great giants in their days. What made them so? Not simply the thoughts they thought, neither the books they wrote, nor the speeches they made—it was something else that is now gone, that is their personality.

III. As I have already remarked, the personality of the man is two-thirds, and his intellect, his words, are but one-third. It is the real man, the personality of the man, that runs through us. Our actions are but effects; actions must come when the man is there; the effect is bound to follow the cause. The ideal of all education, all training, should be this man-making. But, instead of that, we are always trying to polish up the outside. What is in polishing up the outside when there is no inside? The end and aim of all training is to make the man grow. The man who influences, who throws his magic, as it were, upon his fellow-beings, is a dynamo of power, and when that man is ready, he can do anything and everything he likes; that personality put upon anything will make it work.

1. Now answer these questions.

   1.1 Complete the statement.

   a. In failures we don't _____

   1.2 Answer these questions.

   a. What should the head of the family ask himself?

   b. What made the authors appear famous?

   c. Why is personality most important?

   1.3 Find words which mean the same.

   a. admit(para1)_____ b. perfect(para 3)_____

2. In the passage given below, some words are missing. Choose the correct word from the given options to complete the passage meaningfully.

The first test tube baby turtle (a) _____ born last month in California. The story began (b) _____ a broken turtle egg (c) _____ on the seashore. Scientists (d) _____ to work carefully bringing it up

(i) was born	(ii) were born	(iii) is born	(iv) are born
(b) (i) where	(ii) which	(iii) when	(iv) who
(c) (i) is find	(ii) was found	(iii) are finding	(iv) found
(d) (i) get	(ii) are getting	(iii) gets	(iv) have got

3. In the passage given below, some words are missing. Choose the correct word from the given optiobns to complete the passage meaningfully.

Napoleon Bonaparte, the son of a)_____ Italian nobleman, was born b)_____ the island of Corsica in 1769. He joined the French army and by the time he c)_____ twenty six, he d)_____ a general.

a)	i) the	ii) some	iii) an	iv) a
b)	i) in	ii) at	iii) by	iv) on
c)	i) is	ii) were	iii) was	iv) will have
d)	i) had become	ii) became	iii) has become	iv) is becoming

RAIN ON THE ROOF EXTRA QUESTIONS

A. When the humid shadows hover
Over all the starry spheres
And the melancholy darkness
Gently weeps in rainy tears,
What a bliss to press the pillow
Of a cottage-chamber bed
And lie listening to the patter
Of the soft rain overhead!

1. What cries in rainy tears?
2. What is blissful for the poet?
3. What does the poet listen to?
4. Identify the poetic device.

B. Every tinkle on the shingles
Has an echo in the heart;
And a thousand dreamy fancies
Into busy being start,
And a thousand recollections
Weave their air-threads into woof,
As I listen to the patter
Of the rain upon the roof.

1. What echoes in the heart?
2. What gets started?
3. Identify the poetic device.

C. Now in memory comes my mother,

As she used in years agone,
To regard the darling dreamers
Ere she left them till the dawn:
O! I feel her fond look on me
As I list to this refrain
Which is played upon the shingles
By the patter of the rain.

1. What does the poet remember?
2. Why would she come to the poet?
3. What does the poet particularly remember?
4. Identify the poetic device.

East point school

Class IX-Geoghaphy

Assignment (Rivision)

Chapter 2 : Physical features of India.

Very Short Questions :-

1. Which is the highest peak in India.
2. In which division of the Himalayas are the famous valleys of Kashmir, Kangra and kullu located?
3. Which continents of today were part of the gondwana land ?
4. The Earth has been formed out of how many plates ?
5. What do you mean by Gondwana land ?
6. Collision of which two plates led to the formation of fold mountains in the Tethys sea ?
7. Which sea existed in place of the Himalayas in the ancient period ?
8. Which Plateau lies between the Aravali & the Vindhyan ranges.
9. What Is meant by Doab.
10. Name the part of the Himalayas lying between the Indus & satluj River.
11. Name the mountain range which bounds central highland on the North west.
12. Which river marks the eastern most boundary of the Himalayas.

Long Answer Questions.

1. Distinguish between Eastern ghats & Western ghats.
2. What are Duns ? Differentiate between the inner Himalayas & the Himalayas.
3. Write a short note on the central highland.
4. Name the Southern most range of Himalaya.Mention any three features of this range.

HINDI ASSIGNMENT

विषय हिंदी / कक्षा 9
पर्यायवाची शब्द /असाइनमेंट 9
पाठ्यसामग्री एवं अभ्यास कार्य प्रपत्र
(उपलब्धकर्ता - मिस सुजाता परमार)

पर्यायवाची शब्द : https://youtu.be/bpg1Rhx2nm8

दिए गए विषय को पढ़कर, समझकर अभ्यास कार्य मे दिए गए अभ्यास प्रश्नों को शीट्स अथवा कॉपी में हल करें।
नोट: यदि प्रिंट निकलना संभव हो तो प्रिंट में ही हल करके कॉपी में संलग्न करें।

पर्यायवाची शब्द (Synonyms)

कुछ पर्यायवाची शब्दों को पढ़िए-

1. अग्नि - आग, अनल, पावक, ज्वाला, कृशानु, वह्नि
2. अश्व - घोड़ा, तुरंग, हय, वाजि, घोटक, सैंधव
3. अमृत - पीयूष, अमिय, सुधा, सोम, सुरभोग
4. अनुपम - अनोखा, अपूर्व, अद्भुत, निराला, अनूठा, अद्वितीय
5. अंधकार - तिमिर, अँधेरा, तम, तमिस्र
6. अहंकार - दंभ, घमंड, दर्प, अभिमान
7. अतिथि - अभ्यागत, आगंतुक, पाहुना, मेहमान

8. असुर - राक्षस, निशाचर, दैत्य, दानव, रजनीचर, दनुज
9. आँख - नयन, नेत्र, चक्षु, लोचन, अक्षि
10. आकाश - नभ, गगन, आसमान, अनंत, व्योम, शून्य
11. आभूषण - अलंकार, भूषण, गहना, ज़ेवर
12. आनंद - हर्ष, उल्लास, प्रसन्नता, खुशी, आमोद
13. इच्छा - चाह, कामना, लालसा, अभिलाषा, आकांक्षा
14. ईश्वर - भगवान, परमात्मा, प्रभु, ईश, परमेश्वर, जगदीश
15. उन्नति - उत्थान, विकास, प्रगति, उत्कर्ष, अभ्युदय
16. उपवन - उद्यान, बाग, बगीचा, वाटिका, फुलवारी
17. कामदेव - मदन, मनसिज, मनोज, अनंग, रतिपति, पंचशर
18. किरण - कर, अंशु, रश्मि, मरीचि, मयूख
19. किनारा - तट, कगार, कूल, तीर, पुलिन
20. गणेश - गजानन, विनायक, लंबोदर, गणपति, एकदंत, विघ्नेश
21. कपड़ा - वस्त्र, पट, चीर, वसन, अंबर
22. गंगा - देवनदी, सुरसरिता, भागीरथी, जाह्नवी, मंदाकिनी, अलकनंदा
23. घर - गृह, आलय, सदन, निकेतन, धाम, गेह
24. चंद्रमा - चाँद, शशि, राकेश, मयंक, इंदु, सोम, सुधाकर, विधु
25. जल - नीर, वारि, अंबु, तोय, पय, सलिल
26. जंगल - वन, कानन, अरण्य, विपिन, कांतार
27. तालाब - सर, सरोवर, ताल, जलाशय, तड़ाग, पुष्कर
28. दिन - दिवस, वासर, वार, अह्न
29. देवता - सुर, देव, अमर, निर्जर, विबुध, आदित्य
30. नदी - सरिता, तरंगिणी, सलिला, तटिनी, निर्झरिणी
31. नौकर - दास, सेवक, अनुचर, परिचारक, भृत्य
32. पक्षी - पंछी, खग, विहग, द्विज, पखेरू, पतंग
33. पहाड़ - नग, पर्वत, गिरि, शैल, भूधर, अचल
34. पत्नी - भार्या, गृहिणी, अर्धांगिनी, वामा, जीवनसंगिनी
35. पत्थर - पाषाण, पाहन, प्रस्तर, उपल, अश्म
36. पवन - वायु, हवा, समीर, अनिल, मारुत, वात
37. पुत्री - बेटी, सुता, आत्मजा, तनया, तनुजा
38. पत्ता - पत्र, पर्ण, पात, दल, किसलय

39. पृथ्वी - धरती, भूमि, धरा, वसुधा, धरणी, वसुंधरा, अवनि
40. फूल - पुष्प, सुमन, कुसुम, प्रसून, मंजरी
41. पेड़ - वृक्ष, पादप, विटप, द्रुम, तरु
42. बादल - मेघ, जलद, वारिद, पयोद, जलधर, अंबुद, नीरद
43. बिजली - चपला, चंचला, दामिनी, तड़ित, सौदामिनी
44. भँवरा - भ्रमर, अलि, भौंरा, मधुप, मधुकर, भृंग
45. मछली - मीन, मत्स्य, मकर, अंडज
46. मनुष्य - मानव, मनुज, नर, इनसान, आदमी
47. मित्र - सखा, सहचर, दोस्त, मीत
48. माता - माँ, अंबा, अंबिका, धात्री, जननी
49. मृत्यु - निधन, मरण, मौत, देहावसान, शरीरांत
50. युद्ध - रण, संग्राम, लड़ाई, संघर्ष, समर
51. रात - रात्रि, रैन, निशा, रजनी, यामिनी, विभावरी
52. राजा - नरेश, नृप, भूप, भूपति, महीपति, सम्राट
53. शरीर - देह, तन, काया, वपु, गात
54. शत्रु - रिपु, वैरी, अरि, अराति, दुश्मन
55. संसार - जग, जगत्, विश्व, दुनिया
56. झंडा - पताका, निशान, ध्वज, केतु
57. लहर - तरंग, ऊर्मि, लहरी, हिलोर, वीचि
58. सोना - स्वर्ण, कनक, कंचन, हेम, कुंदन
59. सागर - समुद्र, जलधि, वारिधि, रत्नाकर, जलनिधि, अंबुधि
60. सुगंध - सुरभि, सौरभ, महक, खुशबू
61. समूह - झुंड, टोली, दल, वृंद, समुदाय
62. सिंह - शेर, हरि, केहरि, केसरी, मृगराज, वनराज, मृगपति
63. स्त्री - नारी, कांता, रमणी, कामिनी, महिला, औरत, वनिता
64. हाथी - गज, नाग, हस्ती, द्विप, कुंजर, कुंभी
65. हाथ - कर, पाणि, हस्त

आओ लिखकर देखें-

1. निम्नलिखित शब्दों के दो-दो पर्यायवाची लिखिए-

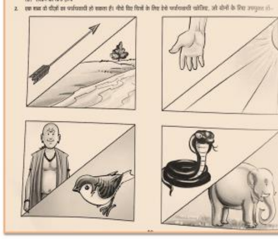
2. वाक्यों के रिक्त स्थानों के लिए उपयुक्त शब्द चुनिए-

आओ सोचकर देखें-

1. वर्ण-पहेली में से चित्रों के नाम के दो-दो पर्यायवाची चुनकर लिखिए-

आओ करके देखें-

खोजबीन-



VV

HISTORY

YOU TUBE LINK;-

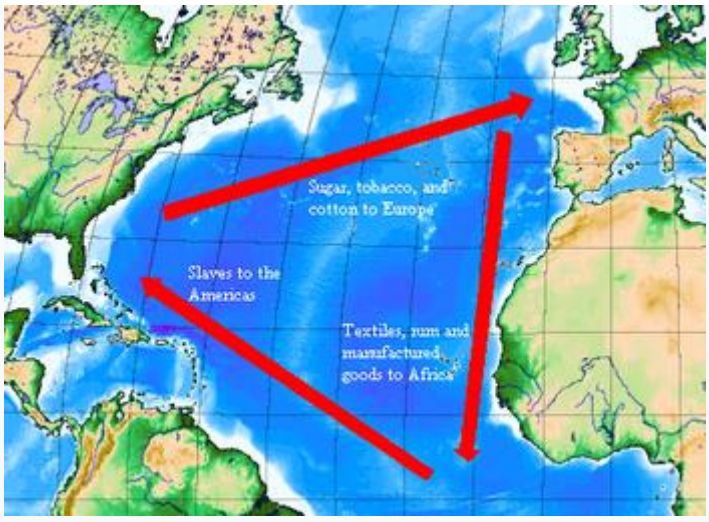
https://www.youtube.com/watch?v=L1awF5IBT4c

https://edurev.in/studytube/The-Abolition-Of-Slavery-The-French-Revolution--CB/12aba3cd-4d7b-4b17-ab36-1fbd66b51d39_v

The Abolition of Slavery

Jacobin regime's most revolutionary social reform was the abolition of slavery in the French colonies. In the seventeenth century, slavery trade began. Slaves were brought from local chieftains, branded and shackled and were packed tightly into ships for the three-month-long voyage across the Atlantic to the Caribbean. Slave labour met the growing demand in European markets for sugar, coffee, and indigo. Throughout the eighteenth century, there was little criticism of slavery in France. In 1794, the Convention legislated to free all slaves in the French overseas possessions. Napoleon introduced slavery after ten years. In 1848, slavery was abolished in French colonies.

Jump to search



Depiction of the classical model of the triangular trade

ACTIVITY:-

MAP WORK;-

Mark Triangular Slave Trade on world political map.

EAST POINT SCHOOL

MATHEMATICS ASSIGNMENT

(1) Algebraic Expressions : Any expression containing constants, variables, and the operations like addition, subtraction, etc. is called as an algebraic expression.
***For example*:** 5x, 2x – 3, x^2 + 1, etc. are some algebraic expressions.

(2) Polynomials : The expression which contains one or more terms with non-zero coefficient is called a polynomial. A polynomial can have any number of terms.
***For example*:** 10, a + b, 7x + y + 5, w + x + y + z, etc. are some polynomials.

(3) Polynomials in One Variable : The expression which contains only one type of variable in entire expression is called a polynomial in one variable.
***For example*:** 2x, a^2 + 2a + 5, etc. are polynomials in one variable.

(4) Term : A term is either a single number or variable and it can be combination of numbers and variable. They are usually separated by different operators like +, -, etc.
***For example*:** Consider an expression 6x - 7. Then, the terms in this expression are 6x and -7.

(5) Coefficient : The number multiplied to variable is called as coefficient.
***For example*:** The coefficient of the term 2x will be 2.

(6) Constant Polynomials : An expression consisting of only constants is called as constant polynomial.
***For Example*:** 7, -27, 3, etc. are some constant polynomials.

(7) Zero Polynomial : The constant polynomial 0 is called as zero polynomial.

(8) Denoting Polynomials in One Variable:
Let us take an example to understand it:

If the variable in a polynomial is x, then we can denote the polynomial by p(x) or q(x) etc.
***For example*:** $p(x) = 7x^2 + 7x + 7$, $t(r) = r^3 + 2r + 1$, etc.

(9) Monomials : The expressions which have only one term are called as monomials.
***For Example*:** $p(x) = 3x$, $q(a) = 2a^2$, etc. are some monomials.

(10) Binomials : The expressions which have two terms are called as binomials.
***For example*:** $r(x) = x + 10$, $c(z) = 7z^2 + z$ etc. are some binomials.

(11) Trinomials : The expressions which have three terms are called as trinomials.
***For example*:** $p(x) = 7x^2 + x + 7$, $d(t) = t^3 – 3t + 4$, etc. are some trinomials.

(12) Degree of polynomial : The highest power of the variable in a polynomial is called as the degree of the polynomial.
***For Example*:** The degree of $p(x) = x^5 – x^3 + 7$ is 5.
Note: The degree of a non-zero constant polynomial is zero.

(13) Linear polynomial : A polynomial of degree one is called a linear polynomial.
***For Example*:** $2x – 7$, $s + 5$, etc. are some linear polynomials.

(14) Quadratic polynomial : A polynomial having highest degree of two is called a quadratic polynomial. In general, a quadratic polynomial can be expressed in the form $ax^2 + bx + c$, where $a \neq 0$ and a, b, c are constants.
***For Example*:** $x^2 – 9$, $a^2 + 7$, etc. are some quadratic polynomials.

(15) Cubic polynomial : A polynomial having highest degree of three is called a cubic polynomial. In general, a quadratic polynomial can be expressed in the form $ax^3 + bx^2 + cx + d$, where $a \neq 0$ and a, b, c, d are constants.
For E*xample*: $x^3 – 9x + 2$, $a^3 + a^2 + a + 7$, etc. are some cubic polynomials.

(16) General expression of polynomial : A polynomial in one variable x of degree n can be expressed as $a_n x^n + a_{n-1} x^{n-1} + ... + a_1 x + a_0$, where $a_n \neq 0$ and $a_0, a_1, ... a_n$ are constants.

(17) Zeroes of a Polynomial : The value of variable for which the polynomial becomes zero is called as the zeroes of the polynomial.

***For Example*:** Consider p(x) = x + 2. Find zeroes of this polynomial.
(i) If we put x = -2 in p(x), we get,
(ii) p(-2) = -2 + 2 = 0.
(iii) Thus, -2 is a zero of the polynomial p(x).

(18) Some Note-worthy Points:

(i) A non-zero constant polynomial has no zero.
(ii) A linear polynomial has one and only one zero.
(iii) A zero of a polynomial might not be 0 or 0 might be a zero of a polynomial.
(iv) A polynomial can have more than one zero.

(19) Some Examples:

***For Example*:** Find value of polynomial $3a^2 + 5a + 1$ at a = 3.
(i) Here, $p(a) = 3a^2 + 5a + 1$.
(ii) Now, substituting a = 3, we get,
(iii) $p(3) = 3 \times (3)^2 + 5 \times 3 + 1 = 27 + 15 + 1 = 43$

***For Example*:** Check whether at x = -1/7 is zero of the polynomial p(x) = 7x + 1.
(i) Given, p(x) = 7x + 1.
(ii) Now, substituting x = -1/7, we get,
(iii) p(-1/7) = 7(-1/7) + 1 = -1 + 1 = 0.
(iv) Here, p(-1/7) is zero. Thus, -1/7 is zero of the given polynomial.

***For Example*:** Find zero of the polynomial p(x) = 2x+ 2.
(i) Equating p(x) to zero, we get,
(ii) p(x) = 0
(iii) 2x + 2 = 0
(iv) 2x = -2 i.e. x = -1.
(v) Thus, x = -1 is a zero of the given polynomial.

(20) Remainder Theorem:

***Statement*: Let p(x) be any polynomial of degree greater than or equal to one and let a be any real number. If p(x) is divided by the linear polynomial x – a, then the remainder is**

p(a).

***Proof* :**

(i) Let p(x) be any polynomial with degree greater than or equal to 1. Suppose that when p(x) is divided by x – a, the quotient is q(x) and the remainder is r(x), i.e., p(x) = (x – a) q(x) + r(x)

(ii) Since the degree of (x – a) is 1 and the degree of r(x) is less than the degree of (x – a), the degree of r(x) = 0. This means that r(x) is a constant, say r.

(iii) So, for every value of x, r(x) = r.

(iii) Therefore, p(x) = (x – a) q(x) + r

(iv) In particular, if x = a, this equation gives us

(v) p(a) = (a – a) q(a) + r = r, which proves the theorem.

In other words, If p(x) and g(x) are two polynomials such that degree of p(x) ≥ degree of g(x) and g(x)≠0, then there exists two polynomials q(x) and r(x) such that p(x) = g(x)q(x) + r(x), where, q(x) represents the quotient and r(x) represents remainder when p(x) is divided by g(x).

***For Example*:** Divide $3x^2 + x - 1$ by x + 1.

(i) Let, p(x) = $3x^2 + x - 1$ and g(x) = x + 1.

$$\begin{array}{r|l} & 3x - 2 \\ \hline x + 1 & 3x^2 + x - 1 \\ & 3x^2 + 3x \\ & - \quad\ - \\ \hline & \quad -2x - 1 \\ & \quad -2x - 2 \\ & \quad + \quad\ + \\ \hline & \qquad\quad 1 \end{array}$$

(ii) Performing divisions on these polynomials, we get, (iii) Now, we can re-write p(x) as $3x^2 + x - 1 = (x + 1) (3x -2) +1$.

***For Example*:** Find remainder on dividing $x^3 + 3x^2 + 3x + 1$ by $2x + 5$.

$$
\begin{array}{r}
\frac{x^2}{2}+\frac{x}{4}+\frac{7}{8} \\
2x+5\overline{)\ x^3+3x^2+3x+1} \\
x^3+\frac{5}{2}x^2 \\
- \quad - \\
\hline
\frac{x^2}{2}+3x+1 \\
\frac{x^2}{2}+\frac{5x}{4} \\
- \quad - \\
\hline
\frac{7x}{4}+1 \\
\frac{7}{4}x+\frac{35}{8} \\
- \quad - \\
\hline
-\frac{27}{8}
\end{array}
$$

Thus, remainder obtained on dividing $x^3 + 3x^2 + 3x + 1$ by $2x + 5$ is -27/8.

(21) Factorisation of Polynomials:

(i) Factor Theorem: If p(x) is a polynomial of degree n ≥ 1 and a is any real number, then
(a) x – a is a factor of p(x), if p(a) = 0
(b) p(a) = 0, if x – a is a factor of p(x)

***For Example*:** Check whether (x + 1) is factor of $p(x) = x^3 + x^2 + x + 1$.
(i) As per Factor Theorem, (x + 1) is factor of $p(x) = x^3 + x^2 + x + 1$, if p(-1) = 0.
(ii) Therefore, $p(-1) = (-1)^3 + (-1)^2 + (-1) + 1 = -1 + 1 - 1 + 1 = 0$.
(iii) Thus, (x + 1) is factor of $p(x) = x^3 + x^2 + x + 1$.

***For Example*:** Find value of k, if (x – 1) is factor of $p(x) = kx^2 – 3x + k$.
(i) As per Factor theorem, here, p(1) = 0.
(ii) So, $k(1)^2 – 3(1) + k = 0$.
(iii) k – 3 + k = 0
(iv) 2k – 3 = 0
(v) k = 3/2.

***For Example*:** Factorise $2y^3 + y^2 – 2y – 1$.
(i) On using trial and error method, we get,
(ii) $p(1) = 2(1)^3 + (1)^2 – 2(1) – 1 = 2 + 1 – 2 -1 = 0$.
(iii) Thus, $(y – 1)$ is factor of $2y^3 + y^2 – 2y – 1$.

$$
\begin{array}{r|l}
y-1 & 2y^2+3y+1 \\
\hline
 & 2y^3+y^2-2y-1 \\
 & 2y^3-2y^2 \\
 & \quad - \quad + \\
\hline
 & \quad 3y^2-2y-1 \\
 & \quad 3y^2-3y \\
 & \quad - \quad + \\
\hline
 & \quad y-1 \\
 & \quad y-1 \\
\hline
 & \quad 0
\end{array}
$$

(iv) Now, using division method, we get, (v) Thus, $p(y) = 2y^3 + y^2 – 2y – 1$

$= (y – 1) (2y^2 + 3y + 1)$
$= (y – 1) (2y^2 + 2y + y + 1)$
$= (y – 1) (2y (y + 1) + 1 (y + 1))$
$= (y – 1) (y + 1) (2y + 1)$

(22) Algebraic Identities:

(i) $(a +b)^2 = (a^2 + 2ab + b^2)$
(ii) $(a – b)^2 = (a^2 - 2ab + b^2)$
(iii) $a^2 – b^2 = (a + b) (a – b)$
(iv) $(x + a) (x + b) = x^2 + (a + b)x + ab$
(v) $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$
(vi) $(a + b)^3 = a^3 + b^3 + 3ab (a + b)$
(vii) $(a – b)^3 = a^3 - b^3 - 3ab (a - b) = a^3 – 3a^2b + 3ab^2 - b^3$
(viii) $a^3 + b^3 + c^3 - 3abc = (a + b + c) (a^2 + b^2 + c^2 - ab - bc - ca)$

For Example: Use suitable identity to find $(x + 2) (x – 3)$.
(i) We know the identity, $(x + a) (x + b) = x^2 + (a + b)x + ab$
(ii) Using the identity, $(x + 2) (x – 3) = x^2 + (2 – 3)x + (2)(-3) = x^2 – x – 6$.

***For Example*:** Evaluate (102 x 107) without multiplying directly.
We know the identity, $(x + a) (x + b) = x^2 + (a + b)x + ab$
(i) Here, we can write, 102 as (100 + 2) and 107 as (100 + 7). So, $x = 100$, $a = 2$ and $b = 7$.
(ii) Using the identity, $(102 \times 107) = 100^2 + (2 + 7)100 + (2)(7) = 10000 + 900 + 14 = 10914$

***For Example*:** Factorise $(a + b + c)^2 = 4a^2 + 16b^2 + 64c^2 + 16ab + 64bc + 32ca$.
(i) We know the identity, $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$
(ii) Now, $4a^2 + 16b^2 + 64c^2 + 16ab + 64bc + 32ca$
$= (2a)^2 + (4b)^2 + (8c)^2 + 2(2a)(4b) + 2(4b)(8c) + 2(8c)(2a)$.
$= (2a + 4b + 8c)^2$
$= (2a + 4b + 8c)\ (2a + 4b + 8c)$

For Example: Write $(x – 2/3y)^3$ in expanded form.
(i) We know the identity, $(a – b)^3 = a^3 - b^3 - 3ab\ (a - b)$
(ii) $(x – 2/3y)^3 = x^3 – (2/3y)^3 – 3(x)(2/3y)\ (x – 2/3y)$
$= x^3 – 8/27y^3 – 2xy\ (x – 2/3y)$
$= x^3 – 8/27y^3 – 2x^2y + 4/3\ xy^2$

***For example*:** Factorise $8a^3 + 27b^3 + 64c^3 - 72abc$.
(i) We know the identity, $a^3 + b^3 + c^3 - 3abc = (a + b + c)\ (a^2 + b^2 + c^2 - ab - bc - ca)$
(ii) So, $8a^3 + 27b^3 + 64c^3 - 72ab$
$= (2a)^3 + (3b)^3 + (4c)^3 – 3(2a)(3b)(4c)$
$= (2a +3b + 4c)\ ((2a)^2 + (3b)^2 + (4c)^2 – (2a)(3b) –(3b)(4c) -(4c)(2a))$
$= (2a + 3b + 4c)\ (4a^2 + 9b^2 + 16c^2 - 6ab - 12bc - 8ca)$

VIDEO LINK: https://youtu.be/P5iRlY2uPR0

EAST POINT SCHOOL
CLASS IX SUBJECT PHYSICS
CHAPTER – FORCE AND LAWS OF MOTION

LINK-https://youtu.be/2yLQ9G3LuIY

1. What do you mean by law of conservation of momentum?
2. Why do roads on mountains have inward inclination at sharp turns?
3. Why is it dangerous to jump out of a moving bus?
4. How do safety belts of cars help in preventing accidents?
5. Explain how momentum gets conserved in collision of two bodies?
6. How are Newton's three laws of motion related?
7. Explain inertia and momentum in detail.
8. Define force and its various types. What is its unit?
9. Give three examples exhibiting inertia in our daily life
10. What change will a force bring in a body?
11. From a rifle of mass 5kg, a bullet of mass 50gram is fired with an initial velocity of 50m/s. Calculate the initial recoil velocity of the rifle.
12. Explain how Newton's second law of motion is used in sports?
13. Why does one get hurt on jumping from a great height to the floor?
14. What is a balanced force?

Study material Electoral Politics

Class IX

What is an Election?

A mechanism by which people choose their representatives at regular intervals and change the representatives if they wish to do so. This mechanism is called election.

Why do we need elections?

1. Elections take place regularly in all democracies. A rule of the people is not possible in any large country and it is not possible for everyone tohave the time and knowledge to take decisions on all matters. Therefore in most democracies people rule through their representatives.
2. Therefore, elections are consideredessential in our times for any representativedemocracy.In an election the voters makemany choices:

- They can choose representatives who will makelaws for them.
- They can choose leaders who will form thegovernment and take major decisions.
- They can choose the party whosepolicies will guide the governmentand law making.

What makes an election democratic?(a simple list of the minimumconditions of a democratic election)

1. First, everyone should be able to choose. This means that everyone should have one vote and every vote should have equal value.
2. Second, there should be something to choose from. Partiesand candidates should be free to contest elections and should offer some real choice to the voters.
3. Third, the choice should be offered at regular intervals. Elections mustbe held regularly after every few years.
4. Fourth, the candidate preferred by the people should get elected.
5. Fifth, elections should be conducted in a free and fair manner where people can chooseas they really wish.

Is it good to have politicalcompetition?(Merits and Demerits of electoral or political competition)

Demerits:

1. Itcreates a sense of disunity and'factionalism' in every locality.
2. Different political parties andleaders often level allegations againstone another.
3. Parties and candidatesoften use dirty tricks to win elections.
4. Some good people whomay wish to serve the country do notenter this competition. They do not like theidea of being dragged into unhealthycompetition.

Merits

1. Our Constitution makers wereaware of these problems. Yet theyopted for free competition inelections as the way to select ourfuture leaders. They did so becausethis system works better in the longrun.
2. In a way it tries to improve the knowledge and characterof political leaders. The other andmore realistic way is to set up asystem where political leaders arerewarded for serving the people andpunished for not doing so.
3. So if a political party is motivatedonly by desire to be in power, eventhen it will be forced to serve the people.
4. Political competition maycause divisions and some ugliness,but it finally helps to force politicalparties and leaders to serve thepeople.

How elections areheld in India

General Election.

Elections are held in allconstituencies at the same time,either on the same day or within afew days. This is called a generalelection.

By-election

Sometimes election is held only for one constituency or two to fill thevacancy caused by death orresignation of a member. This iscalled a by-election.

Electoral constituencies

Thecountry is divided into differentareas based on population for the purpose of elections.These areas are called electoral constituencies. For LokSabha elections, the country

is divided into 543 constituencies**.**

Reserved Constituencies and need for Reserved Constituencies

Some constituenciesare reserved for people who belongto the Scheduled Castes and

Scheduled Tribes.In a reserved constituency only someonewho belongs to the Scheduled

Castes or Scheduled Tribes can stand for election.

Our Constitution entitles every citizento elect its representative and to beelected as a representative. TheConstitutionmakersworried that in an open electoralcompetition, weaker sectionsmay not stand a good chance to getelected.

<u>Voters' list</u>

The listof those who are eligible to vote isprepared much before the electionand given to everyone. This list isofficially called Electoral Roll andis commonly known as the Voters'List.

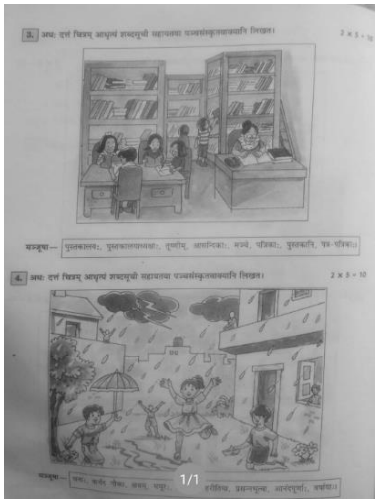
In our country, all the citizens aged18 years and above can vote in anelection. Every citizen has the rightto vote, regardless of his or her caste, religion or gender.

Some criminalsand persons with unsound mind canbe denied the right to vote, but onlyin rare situations.

In the last few years a new systemof Election Photo Identity Card[EPIC] has been introduced. Thegovernment has tried to give thiscard to every person on the voters list

https://youtu.be/3a4akfp_5rw

SANSKRIT ASSIGNMENT



VIDEO LINK : https://youtu.be/UvnzmGjIYw0