KENDRIYA VIDYALAYA NSG MANESAR

AUTUMN BREAK

शरदकालीन अवकाश-गृहकार्य

(20/10/2023- 29/10/2023)

CLASSES VI-XII

विषय – हिंदी

कक्षा – छठी

1. 5 सुलेख

2. रामायण पढ़े (दंडक वन में दस वर्ष से सीता की खोज तक) और 5-5 प्रत्येक अध्याय से प्रश्न - उत्तर लिखे।

3. दशहरे पर अनुच्छेद लिखें।

4. कुँवर सिंह और लक्ष्मी बाई के बारे में 5-5 पंक्तियाँ लिखें।

कक्षा – सातवीं

1. 5 सुलेख

2. बाल महाभारत पढ़े (पाठ द्रौपदी स्वयंवर से द्वेष करने तक) और 5-5 प्रत्येक अध्याय से प्रश्न-उत्तर लिखें।

3. 10 पर्यायवाची, 10 विलोम शब्द

4. दशहरे पर अनुच्छेद लिखे।

5. फास्टफूड के 5 फायदे और 5 नुकसान लिखें।

कक्षा – आठवीं

1. युगों का दौर और नई समस्याएं पाठ को पढ़कर प्रत्येक पाठ से 8-8 प्रश्न- उत्तर करें।

2. स्वरचित हास्य कविता लिखें।

3. यदि दुनिया के सारे पहिए एक साथ हड़ताल कर दे तो क्या होगा ?इस पर एक विचारात्मक लेख लिखें।

कक्षा – नवीं

1. आपने एक सप्ताह पहले लोकप्रिय कंपनी का एक ए•सी• खरीदा। वह ठीक ढंग से काम नहीं कर रहा और आपकी परेशानियां बढ़ गई है । कंपनी के मैनेजर को उसे बदलने के लिए ईमेल लिखिए

2. अलंकार और समास के भेद को लिखते हुए प्रत्येक के चार-चार उदाहरण लिखें।

3. परीक्षा परिणाम आने के बाद दो मित्रों के मध्य संवाद लिखें ।

कक्षा – दसवीं

1 आपने एक सप्ताह पहले लोकप्रिय कंपनी का एक ए•सी• खरीदा। वह ठीक ढंग से काम नहीं कर रहा और आपकी परेशानियां बढ़ गई है । कंपनी के मैनेजर को उसे बदलने के लिए ईमेल लिखिए।

2. दीपावली पर अपने मित्र को बधाई संदेश लिखें।

3. निम्नलिखित संकेत बिंदु के आधार पर अनुच्छेद लिखें-

1) प्रस्तावना 2) वर्तमान समय में नारी की स्थिति 3) नारी में अधिक मानवीय गुण 4) नारी की स्थिति और पुरुष की सोच।

4 सभी अलंकारों के भेद के पांच पांच उदाहरण लिखिए।

Subject: Maths

Class –VI

Q1. Learn multiplication table from 2 to 20.

Q2 . Write the smallest three digit number whose value does not change on reversing its digits.

Q3. Write the greatest three digit number which does not change on reversing its digits.

Q4. What is the successor of greatest 6-digit number?

Q5 .Write the smallest and the greatest 5-digit numbers using the digits 0,2,4,6,8 (Repetition of digits is not allowed).

Q6 .Identify the negative integers from the given numbers.

– 5, 3, 0, 5, – 6, 7, 3, 4, – 4, – 7

Q7. Write the following integers in their increasing order.

– 3, 0, – 6, 5, – 4, 6, 3, – 8

Q8.Compare the following pairs of number use > or < .

(a) 0 ☐ – 6 (b) – 10 ☐ – 2

(c) – 100 ☐ 100 (d) 2 ☐ – 2

Q9.Convert the following improper fractions into mixed fraction.

(a) $\frac{37}{6}$ (b) $\frac{13}{2}$

Q 10.a) three proper and three improper fractions with denominator 7.

(b) two proper and two improper fractions with numerator 9.

Q11. Draw the rough sketch of the following:

(a) Acute angle

(b) Obtuse angle

(c) Reflex angle

Q12.Write all the natural numbers from 1 to 15. What fraction of them are prime numbers?

Q13.Add the following fractions:

(a) $\frac{4}{5}$ and $\frac{5}{6}$ (b) $\frac{3}{4}$ and $\frac{2}{5}$

Class- VII

INSTRUCTIONS : DO ALL THE HOMEWORK ON A-4 SHEETS.

1. Learn tables 1-25.
2. Complete your Learner's Diary.
3. Complete your Multi Disciplinary Project.

PROJECT TOPIC : TREES

FRAME WORK

● THE COVER PAGE

● CERTIFICATE

● ACKNOWLEDGEMENT

● INDEX

● CONTENTS- ACTIVITY-WISE (WITH PAGE NO:)

ACTIVITIES

●COLLECT INFORMATION REGARDING NUMBER OF TREES (COCONUT TREE,

MANGO TREE, JACKFRUIT TREE, PEEPAL TREE, BANYAN TREE,NEEM TREE ETC.)

FOUND IN YOUR LOCALITY (SCHOOL,HOUSING COLONY ETC.)

●PRESENT THE COLLECTED DATA IN A TABULAR FORM FOLLOWED BY SUITABLE

GRAPHICAL REPRESENTATION (BAR GRAPH, PICTOGRAPH ETC.)

●ANALYSE THE DATA TO ANSWER THE FOLLOWING QUESTIONS

1. WHICH TREE IS FOUND MOST ABUNDANTLY?

2.WHICH TREE IS FOUND SCARCELY ?

● PASTE THE PICTURES OF DIFFERENT TYPES OF PLANTS OR TREES GROWN IN YOUR AREA.

Class- VIII

INSTRUCTIONS : DO ALL THE HOMEWORK ON A-4 SHEETS.

1. **Learn tables 1-25.**
2. **Learn the Squares of the numbers from 1-25 .**
3. **Learn the Cubes of the numbers from 1-25 .**
4. **Learn and practice all the divisibility rules.**
5. **Complete your Learner's Diary.**
6. **Complete your Multi Disciplinary Project.**

PROJECT TOPIC : HEALTH IS WEALTH

FRAME WORK

- **THE COVER PAGE**
- **CERTIFICATE**
- **ACKNOWLEDGEMENT**
- **INDEX**
- **CONTENTS - ACTIVITY-WISE (WITH PAGE NO)**

ACTIVITIES

● **Prepare a Bar Graph / Pictograph for various nutrients found in your 5 favourite food items**.

PRESENT THE COLLECTED DATA IN A TABULAR FORM FOLLOWED BY SUITABLE

GRAPHICAL REPRESENTATION (BAR GRAPH, PICTOGRAPH ETC.)

- **Collect data of amount of various nutrients required by an adult daily.**
- **Draw a pie chart on requirement of nutrients by an adult.**

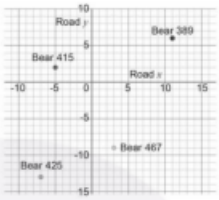
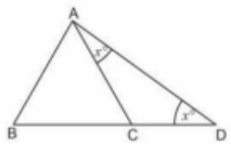
1. **Find ratio of protein required by a person to its body weight.**

2. **Write ratio and percentage of protein found in 5 food items.**

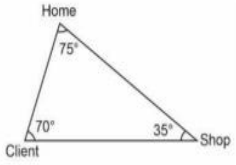
- **Write a sports activity of your choice played in field. Measure the length , breadth and heights of the equipment and field used for it.**
- **Draw the shape of ground required for that sports event.**
- **Write dimensions, perimeter and area required to prepare field for their sports event.**

- ***PASTE THE PICTURES OF DIFFERENT TYPES OF FOOD ITEMS AND NAME THE NUTRIENTS PRESENT IN THEM.***

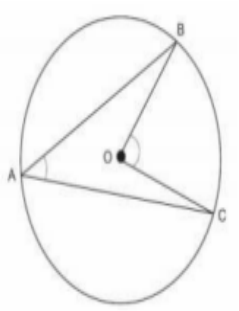
Class- IX

SN	
1	Simplify and find the value in Decimal: i) $\sqrt{3} - \sqrt{5}$ ii) $-4 + \sqrt{15}$ iii) $4 - 2\sqrt{15}$
2	A forest ranger keeps track of bears in his area. He plotted their location on a graph. The origin represents the ranger's control room's location. To access and maintain equipment, Road x and Road y have been laid and paved inside the forest. They pass through the control room.  One unit on the graph paper represents 1 km. Which bear is nearest to a paved road? (a) Bear 389 (b) Bear 415 (c) Bear 425 (d) Bear 467
3	The equation of a line is $ax+by+c=0$. What conditions ensure that the distance of the line from an axis is constant? (a) $c = 0$ and $a, b \neq 0$ (b) $c < 0$ and $a, b \neq 0$ (c) $c, b \neq 0$ and $a = 1$ (d) $c, b \neq 0$ and $a = 0$
4	In the figure below, BC = AC.  What is the measure of ∠BAD?
5	

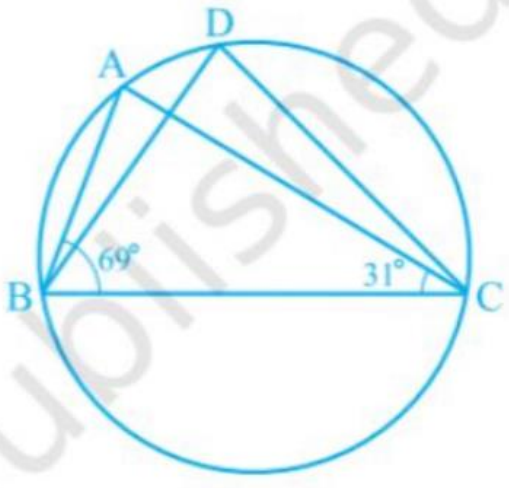
In a toy game, a robot starts from Home, picks an object from the Shop, delivers it to the Client and goes back Home.



Which is the longest segment of the path travelled by the robot?

6	Given below is the figure of a circle with centre O. The measure of ∠BOC = 88°.  What is the measure of ∠BAC? (a) 44° (b) 60° (c) 88° (d) 176°
7	Find the area of a triangle, two sides of which are 8 cm and 11 cm and the perimeter is 32 cm. (a) $8cm^2$ (b) $8\sqrt{30}cm^2$ (c) $8\sqrt{35}cm^2$ (d) NOne of these
8	A triangular park ABC has sides 120m, 80m and 50m. A gardener Dhania has to put a fence all around it and also plant grass inside. How much area does she need to plant? (a) $375m^2$ (b) $475\sqrt{15}m^2$ (c) $375\sqrt{15}m^2$ (d) $475m^2$
9	Which of the following is NOt a solution of x+2y = 6 ? (a) 2,2 (b) 0,3 (c) 6,0 (d) 1,4
10	Which of the following is a solution of x = 4y ? (a) 0,0 (b) 4,2 (c) 1,-4 (d) 2,3

11	Find the value of k if x = 2, y = 1 is a solution of the equation 2x + 3y = k. (a) 6 (b) 7 (c) 8 (d) 5
12	Is (2,0) a solution of the equation x - 2y = 4? (a) YES (b) NO
13	If x – 1 is a factor of $4x^3 + 3x^2 - 4x + k$, then k=_____ (a) -3 (b) 3 (c) 1 (d) -1
14	Factors of $y^2 - 5y + 6$ are (a) (y +2) (y – 3) (b) (y – 2) (y – 3) (c) (y – 2) (y + 3) (d) (y + 2) (y + 3)
15	If x – 1 is a factor of $p(x) = 2x^2 + kx + \sqrt{2}$, k is- (a) $-(1 + \sqrt{2})$ (b) $-(2 - \sqrt{2})$ (c) $-(2 + \sqrt{2})$ (d) $(2 + \sqrt{2})$
16	Simplify $2^{\frac{2}{3}} \cdot 2^{\frac{1}{3}}$ (a) 4 (b) 2 (c) 8 (d) $\frac{1}{2}$
17	Find: $32^{\frac{2}{5}}$ (a) 8 (b) 4

18	 In the above fig, ∠ ABC = 69°, ∠ ACB = 31°, find ∠ BDC. (a) 45 degrees (b) 110 degrees (c) 80 degrees (d) 100 degrees

SUBJECT: SOCIAL STUDIES

CLASS VI

1. On an outline map of world locate all the continents and Oceans
2. Collect information on Lord Buddha on the following aspects:
    a. Birth, Enlightment, Religion, Death and also paste picture of Gautam Buddha.
3. Read one chapter from each book(History, civics & Geography) twice and write 10 questions from each chapter.
4. Make and album on the Temples of Talangana.
    a. Do all the work in a file and submit in the school after the Autumn break.

CLASS VII

1. Make a chart of political parties with their symbols (minimum 10 political parties.)
2. Make a weather calender for 10 days. Use picture or symbols to show different types of weather. (CH 4 GEOGRAPHY)
3. Read one chapter from each book(History, civics & Geography) twice and write 10 questions from each chapter.
4. Write a life sketch Kalvakuntla Chandrashekar Rao (Founder of Telangana)

Do all the work in a file and submit in the school after the Autumn break.

CLASS VIII

1. Make a chart of Fundamental rights.
2. Write Preamble of Constitution and learn it.
3. Collect information about the crops grown in Telangana

4..Read one chapter from each book(History, civics & Geography) twice and write 10 questions from each chapter.

5. Write a life sketch of Raja Ram Mohan Roy and also paste a picture of Raja Ram Mohan Roy.

Do all the work in a file and submit in the school after the Autumn break.

CLASS IX

1. Do the map work of History and Geography as mentioned in the CBSE Syllabus

2. Complete your Disaster Management Project.

3. Read all the chapters upto September end and write five questions from each chapter (word limit should be 50 to 200)

Do all the work in a file and submit in the school after the Autumn break.

Complete your notebook upto September end for the correction and evaluation

CLASS X

1. Do the map work of History and Geography as mentioned in the CBSE Syllabus

2. Select any one project given by CBSE for evaluation and do it in a file.

3. Read all the chapters upto September end and write five questions from each chapter (word limit should be 50 to 200)

Do all the work in a file and submit in the school after the Autumn break.

Complete your notebook upto September end for the correction and evaluation

SUBJECT: SCIENCE

CLASS VI

- Prepare a slogan showing the importance of preserving our environment.
- Prepare an article on any animal and how its body is adapted to survive in that habitat.
- Choose one fable and make a comic strip of it

Write about endangered species

- Compose a poem on your favourite animal
- Observe discovery channel and write a report on the habitat of any animal

CLASS VII

Multi Disciplinary Project (MDP)ACTIVITIES.....

- Prepare a slogan showing the importance of preserving our environment.(A4 size paper)
  Make a Poster on healthy food and say no to Junk food, promotion of Millets on A- 4 size paper.
- Prepare an article on Kidney failure and dialysis.
- Choose any two vegetative parts of two plants and grow them in a potted plant.
  Write a report on different types of blood .
- Draw the diagrams marked in the textbook on an A4 size sheet.

CLASS VIII

1. MDP ON SOME NATURAL PHENOMENON(EARTH QUAKE)

2. Learner's DIARY

3. Draw diagram in scrap book:

1.female reproductive organs

2.Fertilisation

3.LIFE CYCLE OF FROG

4.BINNARY FISDION IN AMOEBA

5.BUDDING IN HYDRA

6. VOICE BOX IN HUMANS.

7. Revise ch 6,7 .

CLASS IX

Note :- Complete the holiday homework in your separate file.

need to make an extra notebook for home assignment .

Q1. Write the names and symbols of elements upto atomic number 30.

Q2. Write the names and symbols of various ions given in your ncert text book .

Q3. Solve the textbook questions of chapter force and laws of motion.

Q4. Write the answers of textbook questions of chapter tissue.

Q5. Make a chart on any three of the following:

(a) Various cells from the human body

(b) Animal cell

(c) Plant cell

(d) Section of a stem

(e) Various types of simple tiossues in plants (parenchyma,collenchyma and sclerenchyma)

(f) Types of complex tissues in plants.

(g) Types of connective tissues in animals (types of blood cells, compact bone, hyaline cartilage, areolar tissue and adipose tissue)

(h) Types of muscle fibres in animals (striated muscle, smo)

CLASS X

- Solve 10 sample papers provided to you on your class group 1 on each day.
- Prepare for Pre Board -1 commencing after Autumn break
- Complete the Class register in all respects during holidays.

SUBJECT: ENGLISH

Class -VI

Q 1 Read the following passage and answer the questions that follow it

Lions are majestic animals that belong to the cat family. They are known as the "King of the Jungle" due to their majestic appearance and dominant nature. Lions live in groups called prides, which are usually made up of several females and their young, along with a few male lions. Male lions have a large mane of hair around their necks, while females do not.
Lions are carnivores, and their diet mainly consists of large ungulates such as wildebeests and zebras. They are excellent hunters and can run very fast for short distances. Unfortunately, lions are currently endangered due to habitat loss and illegal hunting.
Q1 What family do lions belong to?

Q2 Why are lions known as the "King of the Jungle"?
Q3 What do groups of lions called?
Q4 What is the main difference between male and female lions?

Q5 Why are lions endangered?
Q 2 Write a letter to your friend inviting him to celebrate Dussehra festival with you at your place
Q3 Write a paragraph on" Importance of festivals
Q4 Write a short story based on the following hints
A crow…… finds a piece of cheese…… flies to a tree " a hungry fox sees the crow ……thinks of a plain ……..praises him requests him to sing……. the crow very pleased……. opens its beak the cheese ……fall down fox picks up ……. runs away. Moral
Q 5 You had a quarrel with your friend/sibling. Describe the quarrel in a form of a paragraph

Q6 Read English newspaper daily

Q7 Learn all the chapters done in the class and prepare MDP
Q 8 Stays healthy and enjoys holidays

Class- VII

1.Prepare MDP

2. Practise 2 unseen passages.

3. Ask your parents to give you dictation of 20 words from your textbook daily and get it checked by them. Correction is also to be done 5 times. Then click a photo and send in the group daily.

4. Write two paragraphs:-

(i)Dussehra

(ii) Diwali

5. Complete your pending work.

Class- VIII

Q. 1. Write and learn three forms of verb. (50 verbs)

Q. 2. Write an example of each Tense(Affirmative,Negative,Interrogative).

Q. 3. Write an application for the change of section.

Q. 4. Solve any two Unseen passages and paste in your notebook.

Q. 5. Read English Newspaper daily and write five headlines from Newspaper in your note book every day.

Class- IX

Q. 1 practise 5 unseen reading passages and paste in your notebooks

Q. 2. Complete your pending work.

Q. 3.complete the story given below:-

Mr. Aggarwal was a very wealthy businessman. One day he was alone sitting at his dining table when…..

Q4 Revise all the syllabus done in class**.**

Class –X

Q 1Read the passage given below and answer the questions that follow

One day Gandhiji and Vallabhbhai Patel were talking when Gandhiji remarked, 'At times even a dead snake can be useful.' And he narrated the following story to illustrate his point. Once, a snake trespassed into the house of an old woman. She was frightened and cried out for help. Hearing her loud cries, the neighbours rushed in and killed the snake. Then they went back to their homes. Instead of throwing the dead snake far away, the old woman flung it on to her roof.

Sometime later, a kite was flying overhead when it spotted the dead snake. The kite was holding a pearl necklace in its beak. When it saw the dead snake, it dropped the necklace on

the roof and flew away with the dead snake. When the old woman saw a bright, shining object on her roof, she pulled it down with the help of a pole. When she found that it was a pearl necklace, she danced with immense joy.

One day a trader found a snake in his house. He couldn't find anyone to kill it for him and hadn't the courage to kill it himself. Besides, he hated killing any living creatures. So he covered the snake with a pot and left it there.
As luck would have it, that night some thieves broke into the trader's house. They entered the kitchen and saw the overturned pot. 'Ah', they thought, 'the trader has hidden something valuable here.' As they lifted the pot, the snake hissed and the thieves ran for their life.

Read the given questions and write the answer in a sentence.

1. Why did the woman cry out for help?

2. What did the kite do when it saw the dead snake on the roof?

3. How did the live snake help the trader?

4. Why was the old woman happy?

5. Find the word from the passage which means

(a) to make the meaning of something clear
(b) a long thin straight piece of wood/metal

Q2. Read the passage given below and answer the questions that follow.

Many years ago, when the art of stunting plants was quite unheard of except in remote areas of India, Buddhist monks in isolated monasteries in Tibet stunted trees like oak and orange. They watched with excitement the trees flowering and bearing fruit regardless of this 'deformity'. The trees looked so artistically beautiful and enchanted everyone. Some Chinese monks learnt the art from Tibetan monks and soon 'Bonsai' making became a popular hobby and art in China and every garden had at least six bonsais. India and China claimed rights to the art till Japan followed enamoured by its beauty. Today Japan leads in Bonsai making and has invented new methodologies to make the plants look aesthetic and artistic. The most beautiful is the breathtakingly attractive cherry blossom. Bonsais need constant pruning, watering, shaping and correct environment. The trees can be planted in colourful containers of your choice.

Numerous schools have mushroomed where the art is taught and cultivated. Best known among them is the Indian Bonsai Association. India has a great demand for bonsais. Hotels, homes, farmhouses, restaurants and guesthouses use these decorative plants to adorn their lobbies, dining halls and drawing rooms. It is aptly said that a thing of beauty is a joy forever. Indeed the bonsai lasts in one's imagination long after the plant has lived its life span.

Bonsai gardeners use methods including wiring branches, extreme pruning of roots and branches, root binding, grafting and custom soil and cinder mixtures. But perhaps the most

important element of all is patience. Instructions for achieving the 'roots over rock' effect give insight into the work of a bonsai artist: trim the roots, place the rock, bind roots, then re-pot and wait for two years. Often a bonsai is created by many hands over the years – a highly-priced tree is one where the hand and the ego of the artist become invisible as in the Zen concept of 'artless art'.

Answer these questions based on the above text:

1. Who first began to stunt trees and plants?

2. Which bonsai is breathtakingly beautiful?

3. Which country leads in the art of stunting today?

.4. How can we take care of bonsais?

.5. Name a few places where bonsais are used for decoration

6. Why does the writer say 'a thing of beauty is a joy forever'?

7. The word 'enamoured' means

Q3 You are Radha G, member of NGO AWAAZ. Write a letter to the editor of a national daily for a public movement to clean the Yamuna river. (You must introduce yourself, describe how the people are to be blamed for polluting the river and suggest the need for installing water treatment plant to clean the river).

Q4 Write a letter to M/s. Oxford Publishing House, London complaining that the books sent by them were not those you had ordered for. Ask for a replacement. You are Varun Joshi, Sector-20, Chandigarh.

Q5Write a letter to M/S Verma Confectionary WZ-17/3, sector 14 Delhi road Gurgaon for placing orders for some eatables for your birthday party or any other event.

Q6.Write A Letter to a tourism company to inquire about the details of some tour package to Shimla.

7. LEARN ALL CHAPTERS.

SUBJECT: SANSKRIT

Class 6

* 1 से 10 तक संख्या संस्कृत में लिखें व याद करें |

* राम, लता, पुष्प, गुरु के शब्द रूप लिखें व याद करें |

(पठ्, गम्, हस्, स्था, दृश्) धातु रूप सभी लकारो में लिखें व याद करें |

वर्ण विच्छेद व वर्ण संयोजन के 15-15 उदाहरण लिखें |

छात्र प्रतिज्ञा संस्कृत में लिखें व याद करें |

Class 7

* 1 से 20 तक संख्या संस्कृत में लिखें व याद करें |

  राम, लता, पुष्प, गुरु, मति, किम्(पु.), किम्(स्त्री.), किम्(नपु.) के शब्द रूप लिखें व याद करें |

  (पठ्, गम्, हस्, स्था, कृ, दृश्, भू) धातु रूप सभी लकारो में लिखें व याद करें |

* कोई दो चित्र बनाकर उनसे पाँच-पाँच वाक्य संस्कृत में बनाइए |

  छात्र प्रतिज्ञा संस्कृत में लिखें व याद करें |

Class 8

* 1 से 30 तक संख्या संस्कृत में लिखें व याद करें |

  राम, लता, पुष्प, गुरु, मति, किम्(पु.), किम्(स्त्री.), किम्(नपु.), अस्मद्, युष्मद् के शब्द रूप लिखें व याद करें |

  (पठ्, गम्, हस्, स्था, कृ, दृश्, भू, सेव्) धातु रूप सभी लकारो में लिखें व याद करें |

* कोई दो चित्र बनाकर उनसे पाँच-पाँच वाक्य संस्कृत में बनाइए |

  छात्र प्रतिज्ञा संस्कृत में लिखें व याद करें |

CLASSES XI, XII

SUBJECT: HINDI

कक्षा-ग्यारहवीं

1. निम्नलिखित दिए गए 03 विषयों में से किन्हीं दो विषयों पर लगभग 120 शब्दों में रचनात्मक लेख लिखिए -

क. एक ऐसी घटना, जिससे आपको जीवन का अमूल्य सबक मिला हो

ख. स्वाध्याय का आनंद

ग. विश्वासपात्र मित्र जीवन की औषधि

2. कोई दो औपचारिक पत्र लिखिए।
3. वितान भाग 1 के पाठ लता मंगेशकर तथा राजस्थान की रजत बूंदें) का अध्ययन कर 20 बहुविकल्पीय/ अति लघु उत्तरात्मक प्रश्नों का निर्माण कर उनके उत्तर भी लिखिए।
4. जनसंचार पाठ का अध्ययन करें.
5. फिल्म निर्माण से संबंधित कठिनाइयां क्या है
6. ज़रूरत और जातिगत भेदभाव की समांतर व्याख्या करें
7. डॉक्टर भीमराव अम्बेडकर पर लेख लिखें.
8. सभी पढ़ाए गए पाठों का अध्ययन करें
9. 15 नवंबर से अर्द्ध वार्षिक परीक्षा सम्भावित है.

SUBJECT: ENGLISH

Class XI

1. Reading comprehension practice questions from the following chapters
   a. The Portrait of a Lady
   b. We're not afraid to die
   c. Discovering Tut
   d. Mother's Day
   e. The Advenutre
   f. Summer of a Beautiful Horse
   g. The Address
   h. The Photograph
   i. Laburnum Top
   j. Voice of Rain
   k. Childhood
2. Learning the following and practice on
   a. Tenses and verb forms
   b. Re-ordering of Sentences
   c. Determiners
   d. Speech writing
3. Practice of Sample papers of CBSE and Unseen passages (factual, descriptive, discursive
4. Solve the Periodic test-1 paper in your notebook.
5. Draft the following posters on A4 size sheets : (to be submitted as a part of Project on ASL (weightage in final exam-5 marks)
   (a) Fit India Plogging Run 4.0
   (b) Poster against corruption in public life
   (c) Poster on National Education day/Importance of Education
   (d) National Intigration/National Unity Day/ Features of Indian Constitution
   (e) On the important Events in Freedom Struuggle/ Azadi ka amrit Mahotsav
   (f) Environmental Awareness/ Wild Life Conservation/Water Conservation/Climatic Change/ Saving Mother Earth
6. Complete your assignments for all the topics taught.
7. Submit a creative and motivating self-composed poem/article for publication in Vidyalaya Magazine

CLASS XII

1. Reading Comprehension(with reference to Context) based questions from prose on the following chapters (weightage in final exam-16 marks)
   l. The Last Lesson • Lost Spring • Deep Water • The Rattrap • Indigo• Interview• Going Places
   m. My Mother at Sixty-Six • Keeping Quiet • A Thing of Beauty• Roadside stand
   n. The Third Level • The Tiger King • Journey to the end of the Earth • The Enemy • On the Face of It • Memories of childhood
8. Learning the following and writing 3 specimen examples of the Following((weightage in final exam-20 marks)

e. Notice up to 50 words..(5 Marks: Format : 1 / Organisation of Ideas: 1/Content : 2 / Accuracy of Spelling and Grammar : 1).

f. Formal/Informal Invitation and Reply up to 50 words. (5 Marks: Format : 1 / Organisation of Ideas: 1/Content : 2 / Accuracy of Spelling and Grammar :1).

g. Letters based on verbal/visual input, to be answered in approximately 120-150 words. Letter types include application for a job with bio data or resume. Letters to the editor (giving suggestionsor opinion on issues of public interest) (5 Marks: Format : 1 / Organisation of Ideas: 1/Content : 2 / Accuracy of Spelling and Grammar :1).

h. Article/ Report Writing, descriptive and analytical in nature, based on verbal inputs, to be answered in 120-150 words. (5 Marks: Format : 1 / Organisation of Ideas: 1/Content : 2 / Accuracy of Spelling and Grammar :1).

9. Solve the Selection test paper in your notebook.
10. Draft the following posters on A4 size sheets : (to be submitted as a part of Project on ASL (weightage in final exam-5 marks)
    (g) Fit India Plogging Run 4.0.
    (h) Poster against corruption in public life
    (i) Poster on National Education day/Importance of Education
    (j) National Intigration/National Unity Day/ Features of Indian Constitution
    (k) Importance of Meditation/ Yoga/ Sports/ Physical exercise for Mental and Physical well being
    (l) On the important Events in Freedom Struuggle/ Azadi ka amrit Mahotsav
11. Submit a creative and motivating self-composed poem/article for publication in Vidyalaya Magazine
12. Prepare the topic for Speaking Assessment (Roll no. wise list of Topics already shared)

SUBJECT: BIOLOGY

Class- XI

Slove the two half yearly sample papers

General Instructions-

I. All questions are compulsory.
II. The question paper has 5 sections and 33 questions. All questions are compulsory.
III. Section A has 16 questions of 1 mark each;
Section B has 5 questions of 2 marks each;
Section C has 7 questions of 3marks each;
Section D has 2 case based questions of 4 marks each;
Section E has 3 questions of 5 marks each;

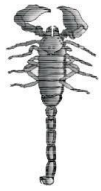
IV. There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.

V. Wherever necessary neat and properly labelled diagrams should be drawn.

SECTION-A

1. Agar agar is obtained from
   a) Gellidium
   b) Polysiphonia
   c) Ficus
   d) Ectocarpus

2. ***The figures (A – D) show four animals. Select the correct option with respect to a common characteristic of two of these animals.***

(A)  ***(B)***  ***(C)*** ***(D)*** 

   (a) ***(A) and (D) respire mainly through body wall***
   (b) ***(B) and (C) show radial symmetry***
   (c) ***(A) and (B) have cnidoblasts for self-¬ defence***
   (d) ***(C) and (D) have a true coelom***

3. In grasses guard cell are _____shaped
(a) Kidney (b)Bean
(c) Dumb-bell (d) Oval

4. ***Viroids differ from viruses in having***
   (a) ***DNA molecules without protein coat***
   (b) ***RNA molecules with protein coat***
   (c) ***RNA molecules without protein coat***
   (d) ***DNA molecules with protein coat.***

5. which one shows the basal placentation?
a. mustard, b. marigold, c. Lady finger, d. Primrose.

6. Ground tissue includes:
(a) all tissues except epidermis and vascular bundles
(b) epidermis and cortex
(c) all tissues internal to endodermis
(d) all tissues external to endodermis

7. Ear of Frog is covered by a thin transparent fibrous membrane.
a. Nictitating membrane b. Tympanum Membrane c. Pyrotid Membrane d. None of these.

8. Which compound is formed due to esterification of glycerol and Palmitic acid?
a. Stearic acid, b. Arachidic acid, c. Tripalmitin, d. Tetrapalmitin.
9. Which one is sulphur containing amino acid? 2.
a. Serine, b. Asparagine, c. cysteine, d. Leucine.
10. Tendril of a pea originates from
a) Root
b) Stem
c) Leaf
d) Flower
11. The RNA contains a base uracil in place of
(a) adenine (b) guanine
(c) cytosine (d) thymine,

12. In What type of fish the ventral mouth is present
a) Chondricthyes
b) Osteicthyes
c) Both of above
d) None of the above

Q.13 to Q.16 is related to Assertion(A) and Reason(R). Answer these questions selecting the appropriate option given below-

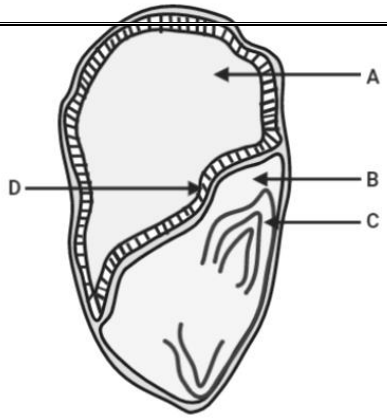
A. Both A and R are true and R is the correct explanation of A.
B. Both A and R are true and R is not the correct explanation of A.
C. A is true but R is false.

D. A is false but R is true.

13. **Assertion** : Algae and fungi are grouped in thallophyta.
Reason :Algae and fungi show no differentiation in thallus.
14. **Assertion**:The middle lamella is a layer made up of calcium pectate.
Reason:It holds the different neighboring cells together.
15. **Assertion**:Most of the chemical reactions do not start automatically.
Reason:Reactant molecules have an energy barrier to become reactive.
16.**Assertion**: All vertebrates are chordates, but all chordates are not vertebrates.
Reason: Notochord is replaced by vertebral column in the adult vertebrates

SECTION-B

17. What are the chemosynthetic autotrophic bacteria? In what ways they are useful for human
mankind.
OR
A. Write the full form of ICBN and ICZN.
B. Name the triploblastic, parasitic, invertebrate that has no alimentary canal.
18. A.Represent the zwitterionic form of amino acid.



B.Label the diagram of a monocot seed

19. Name the largest of animal phylum and write at least five most important distinguish feature of this phylum.

20. What is inflorescence? Give one example of Racemose and Cymose flowers each.

21. How does digestion take place in a Frog? Give only enzymatic process.

SECTION-C

22. Differentiate between anatomy of Monocot root and anatomy of Dicot root.

23. Write the scientific name of wheat.

Why growth and reproduction cannot be taken as defining properties of all living organisms? OR

Define the following terms

a) Aestivation
b) Phyllotaxy

24. Name and mention the difference between the two basic body forms of cnidarians. What is the term given for this alternation of generations?

25. Which membrane is referred as biological membrane? Elaborate its anatomic structure on the basis of fluid mosaic model.

26. Describe -structure of Mitochondria with suitable labeling.

27. i) What is an Enzyme ? 1 mark

ii) Distinguish between apo-enzyme & co-enzyme. 1+1=2 marks

28. With the help of neat labeled diagrams explain the following vascular bundles.

A. Conjoint B. Radial C. Open

SECTION- D

29. Raju visited his cattle farm with his Grand father, where he saw various types of Mushroom, he collected and thought he will give her mother to cook for his delicious lunch, but his Grand father put objection, that these are wild varieties and may be poisonous and instructed him to

a. Identify and write scientific name of fungal species. ½ ×2=1 mark

b. Name and write one distinguish feature of belonging class of fungus. 1+1=2 marks

c. Mention nutritional value present in it. 1 mark.

30. Animal belongs to Phyllum Chordata are fundamentally characterised by presence of notochord, a dorsal hollow nervecord and paired pharyngeal gill slits. These are bilateral symmetrical, coelomate with organ system level of organisation. They posses a post anal tail and a closed circulatory system.

Phylum chordata is divided into 3 subphyla Urochordata, Cephalochordata and vertebrata.

a) What do you mean by bilateral symmetry?
b) Describe the characteristic Coelomate?
c) Why some chordates are regarded as Urochordates?
d) How Cephalochordates are different from Urochordates?
e) Write any two Super-Classes of the Phyllum Vertebrata?

SECTION- E

31. Describe the family SOLANACEAE with floral diagram and economic importance.

OR

Rina and Priya are Class XI biology students. When they were studying Classification and nomenclature of living organisms, Rina expressed her opinion that there is no need of systems of classification and scientific names. Priya explained to Rina about the need for classification and scientific names. (4)

Who gave binomial nomenclature ?

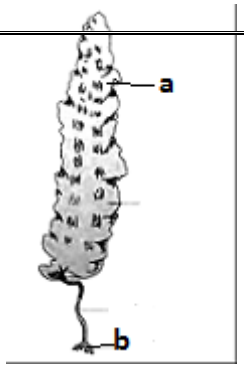
Why classification and scientific names for organisms are needed?

What is this type of nomenclature called?

Write the scientific name of Human Being?

32. What are leucoplasts? Name and describe their different types.

a) What is the difference between passive transport and active transport



i. Identify the diagram shown. a)Name the given figure

b)Label ‘a’ & ‘b’ and mention the function of ‘a’

c)Which group does the figure belong to? 1 mark

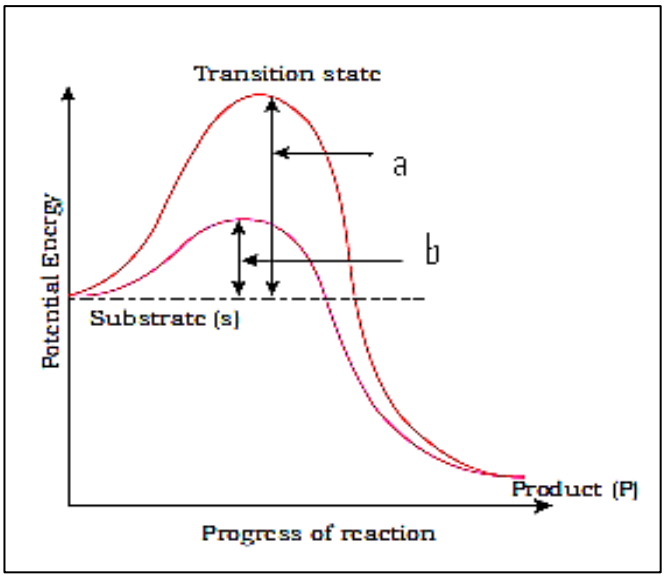
OR

(a) Why reptiles became the first successful land animals?

(b) Which features make mammals as most successful and dominant animals?

(c)What is a centromere? How are chromosomes classified based on the position of centromere. Show with the help of labeled diagram

33.Study the graph related to enzyme activity shown below and answer the followings



Identify ‘a’ and ‘b’ in the picture.

What do you mean by transition state?

Graphically represent the effect of increasing substrate concentration on enzyme activity.

OR

Draw a neat and well label diagram of female reproductive system of a frog.

2sample papers shared for each XI and XII class and practical work is to be done

General Instructions:
(i) All questions are compulsory.
(ii) The question paper has five sections and 33 questions. All questions are compulsory.
(iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
(iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
(v) Wherever necessary, neat and properly labeled diagrams should be drawn.

SECTION-A

1. Identify the characteristics of IUDs.

(i) Increase phagocytosis of sperms.
(ii) Releases Cu ions that suppress sperm motility and fertilizing capacity of sperms.
(iii) Make the uterus unsuitable for implantation.
(iv) Make the cervix hostile to sperms.
(v) Prevent semen from entering the female reproductive tract.

(A) (i), (ii), (iii), (iv) and (v)

(B) (i), (ii), (iii) and (iv)

(C) (i) and (ii)

(D) (v) ,(ii), (i)

2. Which of the following infections can also be transmitted by sharing of injection needles surgical instruments, etc., with infected persons, transfusion of blood, or from an infected mother to the fetus too?

A) Hepatitis B and HIV

B) Genital herpes and HIV

C) Syphilis and Hepatitis B

D) Chlamydiasis and Trichomoniasis

3. Which enzymes will be produced in a cell in which there is a nonsense mutation in the lac Y gene?

A) Lactose Permease

B) Transacetylase

C) Lactose permease and transcetylase

D) **β-galactosidase**

4. The Miller-Urey abiotic synthesis experiment (and other subsequent, similar experiments) shows that:

A) simple organic molecules can for spontaneously under conditions like those thought to prevail early in the earth's history.

B) The earliest life forms introduced large amounts of oxygen to the atmosphere.

C) Life can be created in a test tube.

D) Long chains of DNA can form under abiotic conditions.

5. Which one of the following statements is correct about T-lymphocytes in mammals?

A) These are produced in thyroid.

B) There are three main types - cytotoxic T-cells, helper T-cells and suppressor T-cells.

C) These are originated in lymphoid tissues.

D) They scavenge damaged cells and cellular debris.

6. Citric acid is obtained from:

A) Aspergillus niger

B) Rhizobium nigricans

C) Penicillium citrinum

D) Lactobacillus bulgaricus

7. Baculoviruses are excellent pathogens for:

A) species-specific narrow spectrum pesticidal applications.

B) species-specific broad spectrum pesticidal applications.

C) species-specific narrow spectrum insecticidal applications.

D) species-specific broad spectrum insecticidal applications.

8. Restriction enzymes are used in genetic engineering because:

A) they can join different DNA fragments.

B) they can cleave DNA at a specific target.

C) they are nucleases that cut DNA at variable sites.

D) they are proteolytic enzymes which can degrade harmful enzymes.

9. Which of the following type of interactions occur in predation and parasitism?

A) (+, +)

B) (+, 0)

C) (+, -)

D) (-, -)

10. In an age pyramid, the number of individuals of reproductive age is lesser than pre-reproductive but higher than post reproductive ones. The population is:

A) Growing

B) Declining

C) Stable

D) Cannot be predicted

11. Which statement explains the concept of Allen's rule?

A) Aquatic mammals have blubber as insulator.

B) Mammals of colder climate have shorter ears and limbs.

C) Mammals of humid and warmer region have more melanin in their skin.

D) The bear undergoes hibernation during winter.

12. Food chains differ from food webs in that:

(i) food chains are single sequence of who eats whom in a community.
(ii) food chains better represent the entire community.
(iii) food webs represent the complex interaction among food chains.
(iv) food chain is the flow of energy in a population.

A) (i) and (iii)

B) (i) and (iv)

C) (i), (ii) and (iii)

D) (i), (ii), (iii) and (iv)

13. Assertion: Newer antibiotics are required to be produced regularly. Reason: Pathogens often develop resistance to existing antibiotics.

A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
B. if both the assertion and reason are true but the reason is not a correct explanation of the assertion
C. if the assertion is true but the reason is false
D. if both the assertion and reason are false

14. Assertion: In *Ophrys* one petal of the flower bears an uncanny resemblance to the female bee. Reason: Two closely related species competing for the same resource can coexist simultaneously.
a. Both assertion and reason are true, and the reason is the correct
Explanation of the assertion.
b. Both assertion and reason are true, but the reason is not the correct
Explanation of the assertion.
c. Assertion is true but reason is false.
d. Both assertion and reason are false

15. Assertion : Endosperm is a nutritive tissue and it is triploid.

Reason : Endosperm is formed by fusion of secondary nucleus to second male gamete. It is used by developing embryo.

A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion

B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion

C) If the assertion is true but the reason is false

D) If both the assertion and reason are false

16. Assertion : Central dogma is the flow of information from DNA to mRNA and then decoding the information present in mRNA in the form of protein. Reason : In retroviruses, reverse of central dogma occurs.

A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion

B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion

C) If the assertion is true but the reason is false

D) If both the assertion and reason are false

SECTION-B

17. Name an IUD that you would recommend to promote the cervix hostility to sperms.

18. State a difference between a gene and an allele.

19. When does a human body elicit an anamnestic response?

20. Biotechnological techniques can help to diagnose the pathogen much before the symptoms of the disease appear in the patient. Suggest any two such techniques.

21. What are the key functions of the ecosystem? OR What are ecosystem services?

SECTION -C

22. With a neat labelled diagram, write the function of the any three parts of a typical angiosperm ovule?

23. Write the functions of following:
(i) Sertoli cells
(ii) Leydig cells

(iii) Seminal vesicle

24. What is DNA fingerprinting? Mention its applications.

25. Write Hardy-Weinberg principle.How can Hardy-Weinberg equilibrium be affected? Explain giving three reasons.

26. Draw a flow chart of sewage treatment plant.

OR

Given below is a list of six microorganisms. State their usefulness to humans.
(i) Nucleopolyhedrovirus
(ii) Saccharomyces cerevisiae
(iii) Monascus Purpureus
(iv) Trichoderma polypore

(v) Penicillium Notatum

(vi) Propionibacterium shamanic.

27. Show the processes involved in the decomposition of detritus.

28. write the steps in the formation of rDNA.

SECTION -D

29. ***Read the following and answer any four questions from 29 (i) to 29 (iv) given below:***

Sickle cell anemia is a genetic disorder where the body produces an abnormal hemoglobin called hemoglobin S. Red blood cells are normally flexible and round, but when the hemoglobin is defective, blood cells take on a "sickle" or crescent shape. Sickle cell anemia is caused by mutations in a gene called HBB. It is an inherited blood disorder that occurs if both the maternal and paternal copies of the HBB gene are defective. In other words, if an individual receives just one copy of the defective HBB gene, either from mother or father, then the individual has no sickle cell anemia but has what is called "sickle cell trait". People with sickle cell trait usually do not have any symptoms or problems but they can pass the mutated gene onto their children. There are three inheritance scenarios that can lead to a child having sickle cell anemia:

- Both parents have sickle cell trait
- One parent has sickle cell anemia and the other has sickle cell trait
- Both parents have sickle cell anemia

(i) Sickle cell anemia is a/ an _____ disease.

a. X linked
b. autosomal dominant
c. autosomal recessive
d. Y linked

(ii) I f both parents have sickle cell trait, then there is _____of the child having sickle cell anemia.

a. 25 % risk
b. 50 % risk
c. 75% risk
d. No risk

(iii) If one parent has sickle cell anemia and the other has sickle cell trait, there is _____that their children will have sickle cell anemia and _____will have sickle cell trait.

a. 25 % risk, 75% risk
b. 50 % risk, 50% risk
c. 75% risk, 25% risk
d. No risk

(iv) the point mutation in sickle cell anemia lead to a change in codon

a. UGA to UAA
b. AUG to GAG
c. GAG to GUG
d. GUG to CAG

30. ***Read the following and answer any four questions from 30 (i) to 30 (iv) given below:***

Every day we are exposed to large number of infectious agents. However, only a few of these exposures result in disease. Why? This is due to the fact that the body is able to

defend itself from most of these foreign agents. This overall ability of the host to fight the disease-causing organisms, conferred by the immune system is called immunity. Immunity is of two types: (i) Innate immunity and (ii) Acquired immunity. Innate Immunity Innate immunity is non-specific type of defence, that is present at the time of birth. This is accomplished by providing different types of barriers to the entry of the foreign agents into our body. Innate immunity consist of four types of barriers. These are — (i) Physical barriers: Skin on our body is the main barrier which prevents entry of the micro-organisms. Mucus coating of the epithelium lining the respiratory, gastrointestinal and urogenital tracts also help in trapping microbes entering our body. (ii) Physiological barriers: Acid in the stomach, saliva in the mouth, tears from eyes–all prevent microbial growth. (iii) Cellular barriers: Certain types of leukocytes (WBC) of our body like polymorpho-nuclear leukocytes (PMNL-neutrophils) and monocytes and natural killer (type of lymphocytes) in the blood as well as macrophages in tissues can phagocytose and destroy microbes. (iv)Cytokine barriers: Virus-infected cells secrete proteins called interferons which protect non-infected cells from further viral infection.

Que. 1) A skin barrier that protects our body from entering micro-organisms is a …….. barrier.

(a) Cellular barrier

(b) Physical barrier

(c) Physiological barrier

(d) Both (a) and (c)

Que. 2) A non-specific type of defence is also known as …….

(a) Innate immunity

(b) Acquired immunity

(c) Pathogen specific

(d) PMNL

Que. 3) When the host is able to fight against disease-casing organisms, then the ability is known as …….

(a) Microbial growth

(b) Immunity

(c) Barriers

(d) Interferons

Que. 4) Which type of barrier include interferons that protects non-infected cells from further viral infection?

(a) cytokine

(b) Immunity

(c) PMNL

(d) CMI

SECTION -E

31. Explain the different phases of menstrual cycle and correlate the phases with the different levels of pituitary hormones in a human female.

OR

(i) Draw a diagram of the adult human female reproductive system.
(a) Label the different parts of human female reproductive system
(b) write the function of layers of uterus wall

32. List the characteristics of DNA molecules. What criteria required for genetic material.

OR

Explain the components lac operon in E. coil with suitable diagram and write the role of z,y,a gene in Lac Operon.

33. (i) Why are transgenic animals so called?

(ii) Explain the role of transgenic animals in (a) vaccine safety (b) biological products with the help of an example for each.

OR

Explain the various steps involved in the production of artificial insulin by suitable diagram.

****

SUBJECT: BUSINESS STUDIES

Class 11

1.Prepare questions of all chapter for half yearly.

2. Make a project on any given topic of your text book for half yearly exaimnations.

3. Solve question papers posted in your class WhatsApp group.

Class 12

1. Prepare case studies of all chapter given in exercise
2. Make a Project Work for final practical.
3. Solve sample papers posted on your class WhatsApp group.

SUBJECT: ACCOUNTS

Class 11

1. Complete all your Homework along with

Index in home work copy/register.

2. Do project work on any one topic from ch.1 to ch.18

3. Revise chapters 1 to ch.18 done for preparation for Half yearly exam.

4. Practice 10 MCQ question from each chapter ie ch.1 to ch.18

This H.W. will be checked and evaluated for the purpose of internal assessment.

2. Revise Syllabus for pre board exam.
3. Prepare Practical file.
4. Practice MCQ- Assertion based Questions.
5. Solve practice paper posted on WhatsApp group .
6. Solve c.b.s.e. sample paper in your note book.

SUBJECT: ECONOMICS

Class 11

Q1. Define the following:-

a) Economy

b) Normative and positive economics

c) Law of diminishing marginal utility

d) Demand and law of demand

e) PPC and indifference curve

1) MRT

g) MRS

h) Properties of PPC and Indifference curve

Q2. When PPC shifts to: i) rightward a) leftward.

Q3.Explain the relationship between MP and TP with the help of diagram.

Q4. Explain consumer equilibrium through indifference curve analysis. Use diagram.

Q.5. Solve 5 Numerical questions of Elasticity of Demand from the chapter Elasticity of demand

Q6. What is the difference between Movement along the demand curve and Shifts of demand curve ?

Q7. Properties of PPC and Indifference curve

Q8.Draw Pie diagram, Ogive, Histogram, one for each as per questions (data) given in exercise of the chapters (your statistics book).

Q 9. Solve numericals of (mean, median and mode) given in the chapter.(Measures of Central Tendencies). 5 numericals of Each -Mean Median and Mode. Taking individual, discrete and continuous series.

10. Project file

Note : Review one concept daily ,and then written practice in your Home work note book .

Class 12

1. Explain the features of Indian economy on the eve of independence
    a. Agriculture
    b. industry
    c. foreign trade
    d. occupational structure
    e. demographic profile
    f. Infrastructure
2. Explain the positive impacts of British rule on the eve of independence.
3. Explain the conditions of agriculture between the period of 1951to 1991.

4. What do you mean by green revolution ? Explain its good and bad impacts.
5. What are the features of small scale industry?
6. Explain the concept in word looking trade policy.
7. Explain the long terms goals of five year plans.
8. What do you mean by liberalisation and privatisation ? Explain their features.
9. Explain the concept of globalisation. Outsourcing is very important for globalisation.
10. Concepts of Rural development

*Rural credit
*Rural marketing
* Diversification
* Organic farming

11. Explain the sources of Human capital formation
12. What do you mean by Sustainable development , explain its strategies
13. Explain the types of unemployment ,and steps taken by the government to generate employment
14. Give the difference between India Pakistan and China under Demographic profile and HDI
15. Numerical questions of National income 5 from each method
16. Define money. Explain its features.
17. Define money supply .What are its components?
18. What do you mean by commercial bank .How commercial bank can create credit in the economy.
19. What do you mean by Central Bank ?Explain its functions.
20. How the credit can be controlled by Central Bank?
21. What do you mean by aggregate demand and aggregate supply ?Explain the behaviour of aggregate demand and aggregate supply.
22. How can we convert the consumption function to saving function? use diagram.
23. Give the relationship between a. Average propensity to consume and Average propensity to save
b. Marginal propensity to Consume and Marginal propensity to save.
25. What do you mean by excess demand and deficient demand? ,How can it be controlled?
26. What do you mean by government budget explain its components
27 .what is the difference between fixed exchange rate and flexible exchange rate?
28. What do you mean by foreign exchange market ,its main functions
29. BOP meaning and components
30.project file

Note : Review three questions daily ,and then written practice in your Home work note book

SUBJECT: PHYSICS

Class 11

1.Any one Investigatory project (List of Suggested Investigatory Projects is given in latest CBSE Syllabus 2023-24). Purchase best quality of file for that project.

2.Basic concept of differentiation, integration and trigonometry

3. Solution of PT1 2023-24(Practice if already solved)

4.Revise the following chapters for Hly Exam

- Unit and measurement
- Motion in st line
- Motion in plane
- Laws of motion
- Work, power and Energy

• System of particles and rotational motion

• Gravitation

• Mechanical properties of solids

5.Practice of Numerals (from classwork and homework note book)

6.Activities on PhET website

- Keplers laws
- Energy skate park
- Gravity force
- Projectile motion
- Balancing act

Class 12

1. Any one Investigatory project (List of Suggested Investigatory Projects is given in latest CBSE Syllabus 2023-24). Purchase best quality of file for that project.

2.Applications of Gauss theorem (three applications as per cbse syllabus)

3.Electric field due to dipole (on axial and equatorial)

4.Applications of Biot savarts law and Ampere Circuital law.

5.Principle and working of Moving coil galvanometer and conversion to ammeter and voltmeter.

6.LCR series circuit (Phasor diagram, Impedance, Resonance etc)

7.Principle and working of A.C generator and Transformer.

8.Lens Maker formula (Derivation and numerical as per class homework)

9.Practice of Diagrams (topics mentioned above sr no 2 to 8)

10. Practice of CBSE sample paper 2023-24

SUBJECT: CS/IP

XI - (CS)
DO first 29 questions from the Assignment sent on your group and Revise it.
XII - (CS)
Do 3 Sample Papers in your Notebook which are sent on the CS group and Revise it.

XI – (IP)
DO first 30 questions from the Assignment sent on your group and Revise it.
XII – (IP)
Do 3 Sample Papers in your Notebook which are sent on the CS group and Revise it.

SUBJECT: HISTORY

Class 11

ASSIGNMENT WORK:- Complete your Written Assignment in your Notebook of all 6 Completed Chapter. PROJECT WORK:- Complete your project work as per your choice on given CBSE topic in syllabus .

MAP WORK :- fill One Map from each topic .

LEARNING WORK :- Learn all 4 Chapter for Half Yearly Exam.

Class 12

Assignment:- Complete your Written Assignment of all Completed Chapter of 3rd theme.

PROJECT WORK:- Complete your project work as per your choice on given CBSE topic in syllabus .

MAP WORK :- fill One Map from each topic .

LEARNING WORK :- Learn all Chapter for Pre Board 1 .

SUBJECT: GEOGRAPHY

CLASS - XI

ASSIGNMENT WORK:- Complete your Written Assignment in your Notebook from Completed Chapters .
MAP WORK: - fill one Map from each topic .
LEARNING WORK: - Learn all 7 Chapters for Half Yearly Exam.

CLASS – XII

Assignment:- Complete your Written Assignment of all Completed Chapters. Complete practical work which have been taught so far from syllabus .

MAP WORK :- fill One Map from each topic .

LEARNING WORK :- Learn all Chapter for Pre Board 1 .

SUBJECT: CHEMISTRY

Class 11

1. Revise all the chapter- NCERT exercise
2. Prepare an Investigatory project
3. Do 5 numerical each from chapter – 1,2,4,5,6.
4. Write any 4 chemical equation and balance them (2 each in acidic and basic medium).

Class 12

1. Prepare an Investigatory project
2. Revise NCERT exercise question (both intext and back exercise of each chapter).
3. Practice all question of 3 papers (CBSE previous year).
4. Complete identification of organic function group and salt analysis in practical file.

SUBJECT: MATHS

Class 12

(DAY -1 :- 20/10/2023)

RELATIONS & FUNCTIONS

1. Let A and B be two finite sets with n (A) = m and n (B) = n with m = n then find the number of bijective functions from A to B.
2. Let A = {1,2,3}. Find the number of equivalence relations containing (1,2) .
3. If A = {1,2,3}, B = {4,6,9} and R is a relation from A to B defined by ' x is smaller than y'. Write the range of R.
4. State whether The relation R = { (1,1),(2,2),(3,3)} on {1,2,3} is equivalence relation or not.
5. Let A = **R** - {3} and B = **R** - {1}. Consider the function f : A $\rightarrow$B defined by f (x) = $\left(\frac{x-2}{x-3}\right)$ Is f one-one and onto? Justify your answer
6. Consider a function f : $R_+ \rightarrow [-5, \infty)$ defined $f(x) = 9x^2 + 6x - 5$. Show that f is one- one and onto function, Where R_+ is the set of all non-negative real numbers.
7. Show that the function f: R $\rightarrow$ {x$\in$R :-1 < x < 1} defined by f(x) = $\frac{x}{1+|x|}$, x $\in$R is one- one and onto function.
8. Show that the relation R in the set A = {1, 2, 3, 4, 5} given by R = {(a, b) : |a - b| is even}, is an equivalence relation. Show that all the elements of {1, 3, 5} are related to each other and all the elements of {2, 4} are related to each other. But no element of {1, 3, 5} is related to any element of {2, 4}.

9. Show that each of the relation R in the set A = {x $\in$ **Z** : $0 \leq x \leq 12$}, given by R = {(a, b) : |a - b| is a multiple of 4} is an equivalence relation. Find the set of all elements related to 1.

10. Let N denote the set of all natural numbers and R be the relation on N×N defined by $(a,b)R(c,d) \Leftrightarrow ad(b+c) = bc(a+d)$ prove that R is an equivalence relation on N×N.

ANSWERS

1) [n!] 2) {4,6,9}
3) Equivalence Relation 9) {1,5,9}

(DAY -2 :- 21/10/2023)

INVERSE TRIGONOMETRIC FUNCTIONS

* Domain & Range of the Inverse Trigonometric Function :

	Functions	*Domain*	*Range*(Principal value Branch)
I.	$\sin^{-1}$:	$[-1,1]$	$[-\pi/2,\pi/2]$
II.	$\cos^{-1}$:	$[-1,1]$	$[0,\pi]$
III.	$cosec^{-1}$:	$R-(-1,1)$	$[-\pi/2,\pi/2]-\{0\}$
IV.	$\sec^{-1}$:	$R-(-1,1)$	$[0,\pi]-\{\pi/2\}$
V.	$\tan^{-1}$:	R	$(-\pi/2,\pi/2)$
VI.	$\cot^{-1}$:	R	$(0,\pi)$

1). Find the principal value of $\sec^{-1}(-2)$.

2) Find the principal value of $\sin^{-1}\left(\cos\frac{2\pi}{3}\right)$.

3) Find the principal value of $\cot^{-1}\left(\tan\frac{3\pi}{4}\right)$.

4). Find the value of $\sin^{-1}\left\{\cos(\sin^{-1}\frac{\sqrt{3}}{2})\right\}$.

5). Find the value of $\cot\left[\sin^{-1}\left\{\cos\left(\tan^{-1}1\right)\right\}\right]$.

6) . Principal value of $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ is equal to

7) Evaluate :- $\cos^{-1}\left(\cos\frac{2\pi}{3}\right)+\sin^{-1}\left(\sin\frac{2\pi}{3}\right)$

8) Evaluate :- $\cos^{-1}\left(\cos\frac{7\pi}{6}\right)$

9) Write the principal value of $\tan^{-1}\left(\sqrt{3}\right)-\cot^{-1}\left(-\sqrt{3}\right)$.

10) Write the value of $\tan^{-1}\left[2\sin\left(2\cos^{-1}\frac{\sqrt{3}}{2}\right)\right]$

ANSWERS

1). $\frac{2\pi}{3}$	2). $-\frac{\pi}{6}$	3) $-\frac{\pi}{4}$	4) $\frac{3\pi}{4}$	5) $\frac{\pi}{6}$
6) $\frac{5\pi}{6}$	7) $\frac{5\pi}{3}$	8) $\frac{5\pi}{6}$	9) $\frac{\pi}{2}$	10 $-\frac{\pi}{3}$

(DAY -3 :- 22/10/2023)

MATRICES

1) If $[2x \quad 3]\begin{bmatrix}1 & 2\\ -3 & 0\end{bmatrix}\begin{bmatrix}x\\ 8\end{bmatrix}=O$, find x.

2) Find the matrix P satisfying the matrix equation $\begin{bmatrix}2 & 1\\ 3 & 2\end{bmatrix}P\begin{bmatrix}-3 & 2\\ 5 & -3\end{bmatrix}=\begin{bmatrix}1 & 2\\ 2 & -1\end{bmatrix}$. Also find a matrix Q such that P + Q = O, where O is a zero matrix

3) If A=$\begin{bmatrix} 0 & -\tan\frac{\alpha}{2} \\ \tan\frac{\alpha}{2} & 0 \end{bmatrix}$ and I=$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$. Prove that $I+A=(I-A)\begin{bmatrix} \cos\alpha & -\sin\alpha \\ \sin\alpha & \cos\alpha \end{bmatrix}$

4) If A = $\begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$, find x and y such that $A^2 + xI = yA$. Also find the value of (x - y).

5) For what value of x: $\begin{bmatrix} 1 & 2 & 1 \end{bmatrix}\begin{bmatrix} 1 & 2 & 0 \\ 2 & 0 & 1 \\ 1 & 0 & 2 \end{bmatrix}\begin{bmatrix} 0 \\ 2 \\ x \end{bmatrix}$ = O. Use the value of x to find A^2, if A= $\begin{bmatrix} x & -x \\ -x & x \end{bmatrix}$.

6) If A = $\begin{bmatrix} 3 & -5 \\ -4 & 2 \end{bmatrix}$, show that A^2 -5A - 14I = O.

7) Let A = $\begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$, B = $\begin{bmatrix} 5 & 2 \\ 7 & 4 \end{bmatrix}$, C = $\begin{bmatrix} 2 & 5 \\ 7 & 4 \end{bmatrix}$. Find a matrix D such that CD - AB = O.

8) Express A = $\begin{bmatrix} 3 & 2 & 3 \\ 4 & 5 & 3 \\ 2 & 4 & 5 \end{bmatrix}$ as the sum of a symmetric(P) and a skew-symmetric (Q) matrix. Also find $P^T + Q^T$.

9) If $A=\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$, then prove that $A^2 - 4A - 5I = 0$ and, hence find A^{-1}.

10) Let A = $\begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$ and $f(x) = x^2 - 4x + 7$. Show that f(A) = O. Use this result to find A^5.

ANSWERS

1) $x = 0, x = \frac{-23}{2}$ 2) P= $\begin{bmatrix} 25 & 15 \\ -37 & -22 \end{bmatrix}$, Q = $\begin{bmatrix} -25 & -15 \\ 37 & 22 \end{bmatrix}$ 4) . x = 8, y = 8; 0

5) x = -1, A^2 = $\begin{bmatrix} 2 & -2 \\ -2 & 2 \end{bmatrix}$ 7. D = $\begin{bmatrix} -191 & -110 \\ 77 & 44 \end{bmatrix}$ 8) $\begin{bmatrix} 3 & 3 & 5/2 \\ 3 & 5 & 7/2 \\ 5/2 & 7/2 & 5 \end{bmatrix}+\begin{bmatrix} 0 & -1 & 1/2 \\ 1 & 0 & 1/2 \\ -1/2 & 1/2 & 0 \end{bmatrix}$; $\begin{bmatrix} 3 & 4 & 2 \\ 2 & 5 & 4 \\ 3 & 3 & 5 \end{bmatrix}$

9) A^{-1} =$\begin{bmatrix} -3 & 2 & 2 \\ 2 & -3 & 2 \\ 2 & 2 & -3 \end{bmatrix}$ 10. $\begin{bmatrix} -118 & -93 \\ 31 & -118 \end{bmatrix}$

(DAY -4 :- 23/10/2023)

Determinants

1. Using matrix method, solve: x + y + z = 6; y + 3z = 11; x - 2y + z = 0
2. Using matrix method, solve: 3x - 2y +3z = 8; 2x + y - z = 1; 4x -3 y +2z = 4

3. Solve the system using matrices: $\frac{2}{x}+\frac{3}{y}+\frac{10}{z}=4;\ \frac{4}{x}-\frac{6}{y}+\frac{5}{z}=1;\ \frac{6}{x}+\frac{9}{y}-\frac{20}{z}=2$

4. If A = $\begin{bmatrix} 2 & 3 & 1 \\ -3 & 2 & 1 \\ 5 & -4 & -2 \end{bmatrix}$, find A^{-1} and use it to solve the system of equations:
2x - 3y + 5z = 11, 3x + 2y - 4z = - 5, x + y - 2z = - 3

5. Using matrices, solve the following system of equations:

(i) x + 2y - 3z = - 4
2x + 3y + 2z = 2
3x - 3y - 4z = 11

(ii) 4x + 3y + 2z = 60
x + 2y + 3z = 45
6x + 2y + 3z = 70

6. Find the product AB, where A == $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and use it to solve the equations: x - y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1

7. Using matrices, solve the following system of equations:
$\frac{1}{x}-\frac{1}{y}+\frac{1}{z}=4;\quad \frac{2}{x}+\frac{1}{y}-\frac{3}{z}=0\ ,\quad \frac{1}{x}+\frac{1}{y}+\frac{1}{z}=2$

8. Find the product AB, where A = $\begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & -3 \\ 3 & -2 & 4 \end{bmatrix}$ and B= $\begin{bmatrix} -2 & 0 & 1 \\ 9 & 2 & -3 \\ 6 & 1 & -2 \end{bmatrix}$ and
use it to solve: x - y +2 z = 1, 2y - 3z = 1, 3x - 2y + 4z = 2.

9. Find A^{-1} if A = $\begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$ and show that $A^{-1} = \frac{A^2-3I}{2}$.

10. Given A = $\begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$, B = $\begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$, find BA and use this to solve the system of equations: $y+2z=7, x-y=3, 2x+3y+4z=17$.

ANSWERS

1. x = 1, y = 2, z = 3 2. x = 1, y = 2, z = 3 3. x = 2, y = 3, z = 5

4. x = 1, y = 2, z = 3 5. (i) x = 3, y = -2, z = 1 (ii) x = 5, y = 8, z = 8

6. AB = 8I, x = 3, y = - 2, z = -1 7. x = $\frac{1}{2}$, y = -1, z = 1

8. x = 0, y = 5, z = 3 9. A^{-1} = $\begin{bmatrix} -1 & 1 & 1 \\ 1 & -1 & 1 \\ 1 & 1 & -1 \end{bmatrix}$ 10. x =2, y = -1, z = 4

(DAY -5 :- 24/10/2023)

CONTINUITY AND DIFFERENTIABILITY

1. Find the value of k for which f(x) = $\begin{cases} \frac{\sqrt{1+kx}-\sqrt{1-kx}}{x}, & -1 \le x < 0 \\ \frac{2x+1}{x-1}, & 0 \le x \le 1 \end{cases}$ is continuous at x = 0 .

2. If f(x) = $\begin{cases} 3ax+b, & \text{if } x>1 \\ 11 & \text{if } x=1 \\ 5ax-2b, & \text{if } x<1 \end{cases}$, continuous at x = 1,find the values of a and b.

3. If f(x) = $\begin{cases} \dfrac{1-\sin^3 x}{3\cos^2 x}, & \text{if } x<\dfrac{\pi}{2} \\ a & \text{if } x=\dfrac{\pi}{2} \\ \dfrac{b(1-\sin x)}{(\pi-2x)^2} & \text{if } x>\dfrac{\pi}{2} \end{cases}$ is continuous at x = $\frac{\pi}{2}$, find a, b.

4. If $y = (\log_e x)^x + x^{\log_e x}$ find $\frac{dy}{dx}$.

5. If $x = a(\theta - \sin\theta)$, $y = a(1+\cos\theta)$, find $\frac{d^2y}{dx^2}$ at $\theta = \frac{\pi}{2}$

6 If $x = a\left(\cos\theta + \log\tan\frac{\theta}{2}\right)$ and $y = a\sin\theta$ find $\frac{dy}{dx}$ at $\theta = \frac{\pi}{4}$.

7. If $y = \sin\left(m\sin^{-1}x\right)$, prove that $\left(1-x^2\right)\frac{d^2y}{dx^2} - x\frac{dy}{dx} + m^2y = 0$

8. If $x^m.y^n = (x+y)^{m+n}$, prove that $\frac{dy}{dx} = \frac{y}{x}$

9. If $x\sqrt{1+y} + y\sqrt{1+x} = 0$, $-1<x<1$, prove that $\frac{dy}{dx} = -\frac{1}{(1+x)^2}$

10. If $y = \sqrt{x+\sqrt{x+\sqrt{x+.....\infty}}}$, then find $\frac{dy}{dx}$.

11. If $(\cos x)^y = (\sin y)^x$, then find $\frac{dy}{dx}$.

ANSWERS

1. k = -1	**2** $a=3, b=2$	**3.** $a=\frac{1}{2}$, $b=4$

(DAY -6 :- 25/10/2023)

APPLICATION OF DERIVATIVES

1. Find the intervals in which function f(x) = $2x^3 - 15x^2 + 36x + 1$ is strictly increasing or strictly decreasing.
2. Find the intervals in which function *f(x) = sin x - cos x*, $0 \le x \le 2\pi$, is strictly increasing or strictly decreasing.
3. . Find the absolute maximum and minimum values of a function *f* given by *f* (*x*) = $2x^3 - 15x^2 + 36x + 1$ on the interval [1, 5].
4. A man whose height is 2 m walks at a uniform speed of 6 m/minutes away from a lamp post 5 m high. Find the rate at which the length of his shadow increases.
5. Water is leaking from a conical funnel at the rate of 5 cm^2/s. If the radius of the base of the funnel is 5 cm and the altitude is 10 cm, find the rate at which the water level is dropping when it is 2.5 cm from the top.

6. The length x of a rectangle is decreasing at the rate of 3 cm/minute and the width y is increasing at the rate of 2cm/minute. When x =10cm and y = 6cm, find the rates of change of (a) the perimeter and (b) the area of the rectangle.

7. The volume of a cube is increasing at the rate of 8 cm^3/s. How fast is the surface area increasing when the length of an edge is 12 cm?

8. Show that the volume of the largest cone that can be inscribed in a sphere of radius R is 8/27 of the volume of the sphere.
9. 17. Show that semi-vertical angle of right circular cone of given surface area and maximum volume is $Sin^{-1}(1/3)$.
10. An open box with a square base in to be made out of a given quantity of sheet of area c^2.Show that the maximum volume of the box is $\frac{c^3}{6\sqrt{3}}$.
11. A rectangular sheet of tin 45 cm by 24 cm is to be made into a box without top by cutting off squares from each corner and folding up the flaps. What should be the side of the square to be cut off so that the volume of the box is the maximum possible?
12. Find the interval in which the function f given by $f(x) = x^2e^{-x}$ *is* strictly increasing.

(DAY -7 :- 26/10/2023)

INDEFINITE & DEFINITE INTEGRALS

1. $\int \frac{1}{\sqrt{x}+x} dx$

2. $Evluate: \int \sqrt{\tan x}\ dx$

3. $\int \frac{1}{sin(x-a).cos(x-b)} dx$

4. $\int tanx.tan2x.tan3x\ dx$

5. $\int \frac{sinx-xcosx}{x(x+sinx)}\ dx$

6. $\int \frac{1}{(\sqrt{x}+\sqrt[3]{x})}\ dx$

7. $\int \frac{x^4+1}{x^2+1} dx$

8. $\int \frac{x\ \sin^{-1}x}{\sqrt{1-x^2}} dx$

9. $\left(\int e^{2x} \frac{1+sin2x}{1+cos2x}\right) dx$

10. $\int \frac{sec^4x}{\sqrt{tanx}}\ dx$

11. $\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \sqrt{1+sin2x}\ dx$

12. **If $\int_a^b x^3dx = 0$ and if $\int_a^b x^2dx = \frac{2}{3}$ find** A and B.

13. $Evaluate: \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} cosx\ .log(sinx)dx$

14. $Evaluate: \int_1^3 (|x-1| + |x-2| + |x-3|)dx$

15. $\int_0^{\pi/4} \log(1+\tan x)\ dx$

16. PROVE THAT: $\int_0^{\frac{\pi}{2}} sin2x\ .log(tanx)dx = 0$

17. EVALUATE: $\int_0^{\frac{\pi}{2}} \frac{x\sin x}{1+\cos^2 x}dx$ 18. *Evaluate*: $\int_{-2}^{2} \frac{x^2}{1+5^x}dx$

19 $\int_0^{\frac{\pi}{2}} 2sinx.cosx.\tan^{-1}(sinx)\,dx$ **20.** $\int_0^1 \frac{log(1+x)}{1+x^2}\,dx$

Answer

1. $2\log_e\left|1+\sqrt{x}\right|+C$ **2.** $\frac{1}{\sqrt{2}}\tan^{-1}(\frac{tanx-1}{\sqrt{2tanx}}+\frac{1}{2\sqrt{2}}log|\frac{tanx-\sqrt{2tanx}+1}{tanx+\sqrt{2tanx}+1}|+c$

3. $\frac{1}{cos(x-b)}[\,logsin(x-a)-cos(x-b)]+c$

4. $\frac{1}{3}\,logcos3x+\frac{1}{2}\,logcos2x+\,logcosx+c$ 5. log x- log(x+sinx)+c

6. $2\sqrt{x}$ -$3\sqrt[3]{x}$+$6x^{\frac{1}{6}}$-6log$(x^{\frac{1}{6}}+1)+c$ 7. $\frac{x^3}{3}-x+2\,\tan^{-1}x+c$

8. - $\sqrt{1-x^2}\sin^{-1}x$ +x+c 9. $\frac{1}{2}$e^{2x} tanx +c 10.$2\sqrt{tanx}$ +$\frac{2}{5}\,tan^{\frac{5}{2}}x$+c

11. $\sqrt{2}$ -1 12. A=-1, b=1 13. $\frac{1}{4}log2-\frac{\pi}{8}+\frac{1}{4}$ 14. 5 15. $\frac{\pi}{8}$ log 2

17. $\frac{\pi^2}{4}$ 18. $\frac{8}{3}$ 1 9. $\frac{\pi}{2}-1$ 20. $\frac{\pi}{8}log2$

(DAY -8 :- 27/10/2023)

APPLICATION OF INTEGRATION

1. Find the area enclosed by the circle $x^2+y^2=2$.
2. Find the area of the region bounded by the curve $y = x^2$ and the line $y = 16$.
3. Find the area of the region bounded by the curve $y =\sqrt{16-x^2}$ and x-axis.
4. Find Area of the region bounded by y^2= 4x, y-axis, and the line y = 3.
5. Find The area of the region bounded by the curve x = 2y + 3 and the y lines, y = 1 and y = -1
6. Sketch the region of the ellipse $\frac{x^2}{25}+\frac{y^2}{16}=1$ and find its area, using integration.

7. Sketch the graph of y = $|x+3|$ and evaluate the area under the curve y = $|x+3|$ above x-axis and between x = - 6 to x = 0. using integration.
8. Find the area of the region bounded by x^2 = 4y, y = 2, y = 4 and the y-axis in the first quadrant using integration

9. ~~Find the Area of Triangle having vertices A (2 , 3) , B (4 , 7) C (6 , 2)~~
10. Find the Area of Triangle bounded by lines :- 3x +3 - 2y = 0 , x + 2y -7 = 0 , x-2y+1=0

Answers:

1. 2π sq units
2. $\frac{256}{3}$ sq units
3. 8π sq units
4. $\frac{9}{4}$sq units
5. 6 sq units
6. 20π sq units
7. 9 Sq. units
8. $16 - 4\sqrt{2}\ sq.units$
9. 9 sq units
10. 4 sq units

(DAY -9 :- 28/10/2023)

DIFFERENTIAL EQUATIONS

1. Find the particular solution of the differential equation $(1+e^{2x})dy+(1+y^2)e^x=0$; given that y=1 and x=0

2. Find the particular solution of the differential equation

   $\log\left(\frac{dy}{dx}\right)=3x+4y$, given that y=0 when x=0

3. Solve the following differential equation :

   $\left(x\sin^2\frac{y}{x}-y\right)dx+xdy=0$

4. Solve the following differential equation :

   $xdy-ydx=\sqrt{x^2+y^2}dx$

5. Find the solution of the differential equation

   $(xdy-ydx)y\sin\left(\frac{y}{x}\right)=(ydx+xdy)x\cos\left(\frac{y}{x}\right)$

6. Solve the following differential equation:

   $x\log x\frac{dy}{dx}+y=\frac{2}{x}\log x$

7. Solve the differential equation:

$$x\frac{dy}{dx} + y - x + xy\cot x = 0, x \neq 0$$

8. Find the particular solution of the differential equation

$\frac{dy}{dx} + y\cot x = 2x + x^2\cot x, x \neq 0$ given that y= 0 and x = pie / 2

9. Find the general solution of the differential equation

$$ydx - (x + 2y^2)dx = 0$$

10.. solve the differential equation

$$\left(\tan^{-1} y - x\right)dy = (1 + y^2)dx$$

Answer

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1. $\tan^{-1} y + \tan^{-1} e^x = \frac{\pi}{2}$ 2. $4e^{3x} + 3e^{-4y} = 7$ 3. $\cot\left(\frac{y}{x}\right) = \log|x| + c$

(b) $y + \sqrt{x^2 + y^2} = cx^2$ 5. $\sec\left(\frac{y}{x}\right) = cxy$

6. $y\log x = -\frac{2}{x}(1 + \log x) + c$ 7. $y = \frac{1}{x} - \cot x + \frac{c}{x\sin x}$

8. $y = x^2 - \frac{\pi^2}{4\sin x}, \sin x \neq 0$ 9. $x = 2y^2 + cy$

10. $x = \left(\tan^{-1} y - 1\right) + ce^{-\tan^{-1} y}$

(DAY -10 :- 29/10/2023)

VECTOR ALGEBRA

1. Write a vector of magnitude 15 units in the direction of vector $\hat{i} - 2\hat{j} + 2\hat{k}$.

2. .Find $\vec{a}.\vec{b}$ if $\vec{a} = 3\hat{i} - \hat{j} + 2\hat{k}$ and $\vec{b} = 2\hat{i} + 3\hat{j} + 3\hat{k}$.

3. If $\vec{a}$ and $\vec{b}$ are two vectors such that $|\vec{a} \cdot \vec{b}| = |\vec{a} \times \vec{b}|$, then what is the angle between $\vec{a}$ and $\vec{b}$

4. If $|\vec{a}| = 3$, $|\vec{b}| = 5$ and $\vec{a} \cdot \vec{b} = 9$. Find $|\vec{a} \times \vec{b}|$

5. The dot products of a vector with the vectors $\hat{i} - 3\hat{j}$, $\hat{i} - 2\hat{j}$ and $\hat{i} + \hat{j} + 4\hat{k}$ are 0 , 5 and 8 respectively. Find the vector.

6. If $\vec{a} = 2\hat{i} + 2\hat{j} + 3\hat{k}$, $\vec{b} = -\hat{i} + 2\hat{j} + \hat{k}$ and $\vec{c} = 3\hat{i} + \hat{j}$ are such that $\vec{a} + \lambda\vec{b}$ is perpendicular to $\vec{c}$, find the value of λ.

7. If $|\vec{a} + \vec{b}| = |\vec{a} - \vec{b}|$, then find the angle between $\vec{a}$ and $\vec{b}$.

8. Let $\vec{a}$, $\vec{b}$, $\vec{c}$ be three vectors such that $|\vec{a}| = 3, |\vec{b}| = 4, |\vec{c}| = 5$ and each of them being perpendicular to the sum of the other two, find $|\vec{a} + \vec{b} + \vec{c}|$.

9. If with reference to the right handed system of mutually perpendicular unit vectors $\hat{i}, \hat{j}$ and $\hat{k}$, $\vec{\alpha} = 3\hat{i} - \hat{j}$, $\vec{\beta} = 2\hat{i} + \hat{j} - 3\hat{k}$ then express $\vec{\beta}$ in the form of $\vec{\beta}_1 + \vec{\beta}_2$, where $\vec{\beta}_1$ is parallel to $\vec{\alpha}$ and $\vec{\beta}_2$ is perpendicular to $\vec{\alpha}$.

10. If $\vec{a} = 4\hat{\imath} + 5\hat{\jmath} - \widehat{k}$, $\vec{b} = \hat{\imath} - 4\hat{\jmath} + 4\widehat{k}$, $\vec{c} = 3\hat{\imath} + 4\hat{\jmath} - \widehat{k}$, then find a vector $\vec{d}$ perpendicular to both $\vec{c}$ and $\vec{b}$ and $\vec{d}.\vec{a} = 21$

ANSWERS

1. $5(\hat{i} - 2\hat{j} + 2\hat{k}$ 2. $\vec{a} \cdot \vec{b} = 9$ 3. $\frac{\pi}{4}$ 4. 12

5. $15\hat{i} + 5\hat{j} - 3\hat{k}$ 6. 8 7. $\frac{\pi}{2}$

8. $5\sqrt{2}$

9. $\vec{\beta}_1 = \frac{1}{2}(3\hat{\imath} - \hat{\jmath})$, $\vec{\beta} = \frac{1}{2}\hat{\imath} + \frac{3}{2}\hat{\jmath} - 3\hat{k}$ 10 $-\frac{1}{3}(\hat{\imath} - 16\hat{\jmath} - 13\hat{k})$.