Maharshi Patanjali Vidya Mandir

Holiday Homework (2023-24)

Class - 12

Subject : History

Make a project file decoratively covered, following the norms discussed earlier of about 20 pages on the topic chosen. The topic chosen should be relevant to the syllabus. Extra informations may be added. Matter can be collected from any authentic source.

Go through the portions covered in class.

Subject : Standard Mathematics

1.Solve 100 questions from the chapters covered till May 2023.

2.Draw the graphs of six Trigonometric and Inverse Trigonometric functions with their domain and range.

3.Make a list of all formulae of the chapters covered in class 11th and 12th.

Subject: Informatics Practices (065)

Write short note on the following-

 Computer Network

Network Topologies

Digital footprint

LAN

Introduction to Internet

Data protection

MAN

URL

Intellectual property rights (IPR)

WAN

WWW

Plagiarism

Modem

email

Free and Open Source S/W (FOSS)

Hub

Chat

Cybercrime and Cyber laws

Switch

VoIP

Hacking

Repeater

Website and webpage

Phishing

Router

Static vs dynamic web page

Overview of Indian IT Act.

Gateway

Web server and Hosting

E-waste: hazards and

   management.

Write the uses of following function in MySQL:

POWER ()

LENGTH ()

NOW ()

MAX ()

ROUND ()

LEFT ()

DATE ()

MIN ()

MOD ()

RIGHT ()

MONTH ()

AVG ()

UCASE ()/UPPER ()

INSTR ()

MONTHNAME ()

SUM ()

LCASE ()/LOWER ()

LTRIM ()

YEAR ()

SUBSTRING ()/SUBSTR ()

RTRIM ()

DAY ()

MID ()

TRIM ()

DAYNAME ()

Subject : Accountancy

Prepare comprehensive question and the Balance Sheet related to the project

Revise the topics done till May

Write and learn the formulas of different concepts

Subject : Business Studies

1.Choose the topic for the project

2. Prepare the questionairre

3. Conduct the survey related to the topic

4.Revise the chapters done till May

Subject : Psychology

 1. Observe and interview five persons in your neighbourhood in order to see how they differ from each other in terms of certain psychological attributes. Cover all the 5 domains. Prepare archaeological profile of each person and compare.

2. Select 5 Vocations and gather informations about the nature of work done by people of these Vocations. Also analysis these vocations in terms of the types of psychological attributes required for successful performance. Write a report.

3. We all have some notions about our ideal selves, i. e. and what we would like to be? Take time to imagine that you have achieved your ideal self. With this notion of your ideal self, express your attitudes towards these categories: (a) school, (b) friends, (c) family and (d) money. Write a paragraph on each describing your ideal attitudes. Next write all these categories on 4 sheets of paper and ask your 2 friends and 2 family members to write about what they perceive to be your real attitudes towards these categories. These 4 persons will describe your real self as they see you. Compare your ideal descriptions with others real descriptions in detail. Are they very similar or dissimilar? Prepare a report on this.

4. Select five persons ,whom you most admire, either from real life or from history. Collect information about their contributions in their respective fields and identify the characteristics in their personality that have impressed you. Do you find any similarities? Prepare a comparative report.

Subject: Chemistry

(1)Do numericals from the units studied in the class.

 (2) Revise the unit some basic concepts of organic chemistry which studied in the class 11.

 (3) Make a rough summary of experiment based projects of chemistry.

 (4) Revise units already studied in the class .

विषय : हिंदी

1 कक्षा में पढ़ाए गए पाठों और कविताओं की पुनरावृत्ति करें ।

2 विश्वासपात्र मित्र जीवन की एक औषधि है ।इस विषय पर लगभग 150 शब्दों में रचनात्मक लेख लिखिए ।

3 पत्रकारिता से संबंधित सभी प्रश्न उत्तर लिखकर याद करें ।

4 परियोजना कार्य के लिए दिए गए विषयों में से किसी एक विषय का चयन कर उसकी समस्त सामग्री संकलित करें ।

Subject : Biotechnology

1. Revise the topic done in the chapter.

2. Make a chart on any topic on recombinant DNA technology. (Size of the chart paper 1/4 to 1/2)

3. Make a project report on any " Biotechnology" topic of your interest.

Subject : Biology

Topic : FLORA AND FAUNA OF U. P

Make the project taking the help of following questions, don't exceed the answer more than 4-5 lines. Do it on file paper. Paste or draw pictures of flora and fauna exist in the given region.

* What is flora and fauna?

* What initiatives are taken for the conservation of flora and fauna?

* What are the two government projects to protect flora?

* What is the aim or objectives of studying flora and fauna?

* What is the Eco-friendly project, which is beneficial for flora and fauna?

* How can we save endangered flora and fauna?

* What is the conclusion of the flora and fauna project?

Subject : Applied Mathematics

1.Solve 50 questions from the chapters covered till May 2023.

2.Make a list of all formulae of the chapters covered in class 11th and 12th.

3.Revise and write the concept of calculation of Income Tax /G.S.T./Sale Tax

Subject: Economics

PROJECT FILE

All of you are supposed to take any one topic mentioned in the Syllabus and Topics discussed in Class.Make your file accordingly covering all the Relevant Topics with Index etc.

MACROECONOMICS

Make notes of UNIT-1 NATIONAL INCOME ACCOUNTING.

Complete all Numericals related to National Income in your register.

INDIAN ECONOMIC DEVELOPMENT

Make notes for the following Topics

Indian Economy on the eve of Independence.

Five year Plan and NITI Aayog.

Subject : Physics

Topic- Electric field and charges

1. Draw a plot showing the variation of electric field distance r due to a spherical charged shell.

2. Calculate the electric field strength required to just support a water drop of mass 10-3 kg and having a charge 1.6 X 10-9C.

3. An electrostatic field lines cannot be discontinuous why?

4. A charge q is placed at the centre of the line joining two equal charges Q. Show that the system of three charges will be in equilibrium if q= -Q/4

5. Derive the expression of Electric field due to electric dipole on its a). Axial line b). equatorial line

6. Two identical point charges, q each, are kept 2m apart in air. A third point charge Q of unknown

magnitude and sign is placed on the line joining the charges such that the system remains in

equilibrium. Find the nature and position of Q.

Topic- Electric Flux and Gauss Theorem

7. The net inward flux through any closed surface is 8 X 103 N/M2C. Find the net charge inside the box.

8. Use gauss law to prove that the electric field inside a uniformly charged spherical shell is zero.

9. (a) If E= 3i + 4j 5k, calculate the electric flux through a surface e of area 50 units in z-x plane.

(b) A charge +Q fixed on the y axis at a distance of 1m from the origin and another charge +2Q is fixed on the x axis at a distance of √2 m from the origin. A third charge –Q is placed at the origin. What is the angle at which it moves?

10. A uniform field E=Ex i N/C for x>0 and E= -Ex i N/C for x<0 are given. A right circular cylinder of length L cm and radius R cm has its centre at the origin and its axis along the x-axis. Find out the net outward flux. Also find the net charge inside the cylinder.

 11. Use Gauss this law to derive an expression for the electric field due to an infinitely long straight wire of liner charge density λc/m

12. Calculate the electric flux through each of the six faces of a closed cube of length l, if a charge q is placed (a) at its centre and (b) at one of the vertices

Topic- Electric Potential and capacitor

13. 27 drops of same size are charged at 220V each. They coalesce to form a bigger drop. Calculate the potential of bigger drop.

14. Two point charges 4μC and -2 μC are separated by a distance of 1m in air, Calculate at what point on the line joining the two charges is the electric potential zero?

15. Two charges of 5nC and -2nC are placed at points (5cm,0,0) and (23cm,0,0) in a region of space where there is no other external field, calculate the electrostatic potential energy of this charge system.

16. The two plates of a parallel plate capacitor are 4mm apart. A slab of dielectric constant 3 and thickness 3mm is introduced between the plates with its faces parallel to them. The distance between the plates is so adjusted that the capacitance of the capacitor becomes 2/3 rd of its original value. What is the new distance between the plates?

17. A parallel plate capacitor is charged by a battery. After sometimes the battery is disconnected and a dielectric slab of dielectric constant K is inserted between the plates. How would a). the capacitance b). the electric field between the plates c). the energy stored in the capacitor, be affected? Justify your answer.

18. Define equipotential surface. Draw equipotential surface of electric dipole.
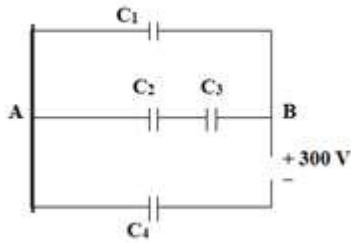
19. Define the term dielectric constant of a medium.

20. Net capacitance of three identical capacitors in series is 1μF. What will be their net capacitance if connected in parallel?

21. Why should electrostatic field be zero inside a conductor?

22.

In the above circuit C1= 100 pF   C2= 200 pF   C3= 200 pF   C4= 100 Pf

For a 300 V supply, determine the charge and voltage across each capacitor.

23. A fully charged parallel plate capacitor is connected across an uncharged identical capacitor. Show that the energy stored in the combination is less than the energy stored in single capacitor.

24. 64 identical drops of mercury are charged simultaneously to the same potential of 10 V. Assuming the drops to be spherical, if all the charged drops are made to combine to form one big drop. Find the potential of big drop.

25. Two conducting spheres of radii 3cm and 1cm are separated by a distance of 10 cm in free space. If the spheres are charged to same potential of 10V each. Find the force of repulsion between them.

Subject: Computer Science

Note: The answers to all questions should be written neatly and properly only in the Theory Notebook.

Q.1. Write a program to input a line of text from user and count the no of vowels and consonants in the line of text.

Q.2. Write a program to input a line of text from user and convert the case of each character in the line of text.

Q.3. Write a program to input values from user and create a 2D List.

Q.4. Explain and compare the usage of the three methods read(), readline() and readlines() with the help of suitable program examples.

Q.5. Compare in detail the properties of the file modes "r","w","a","r+","w+","a+".

Q.6. Write a program to read a text file and count and display the no of lines in file along with no of words in each line of file.

Q.7. Write a program to read a text file and calculate the total size of file and also the actual size of file after removing the leading and trailing whitespaces from the file.

Q.8. Write a program to read a text file and count the no of words in file beginning with character 'a'.

Q.9. Write a program to read a text file and count as well as display the words containing at least one vowel and words containing only consonants.

Q.10. Write a program to read a text file and replace all occurrences of "is" with "was" in the file.

Subject : English

Read Tiger King carefully and take up a working project for Summer Vacation to make a small contribution towards the environment.

Subject: Physical Education

Make a project file decoratively covered, following the norms discussed earlier of about 20 pages on the topic chosen. The topic is athletics. Extra informations may be added. Matter can be collected from any authentic source.