**PRAGATI PUBLIC SCHOOL, DWARKA**

Academic Year: 2018-19

**HOLIDAY HOMEWORK**

SCIENCE (Class-XII)

The word ‘holiday’ is very pleasing to our ears. We are very glad when we get holidays like the summer vacation. Object of holidays -We work hard during the working days of the school. Our brain is taxed. It requries some rest after deep studies. Hence we get long holidays for rest. But we should not waste our time in idleness. It is true that we are not to follow the dull routine of the school. But we must spend the vacation profitably.

Holidays are the time for the parents to become teachers and friends! Vacations help to rejuvenate your child and develop an everlasting bond between you and your child by devoting your precious time towards him/her.

There are times when vacation days seems to run slow, especially when you are used to being always busy at school. Planning and being conscious about how you spend your free time allows you to accomplish more even when you are on vacation. So, here are some tips on how to make the most out of your vacation :

* Make a schedule – list down things you want to accomplish.
* Learn new skills – whether it’s a new hobby or a new career.
* Read a few books – reading is always an investment.
* Be active – sports and exercise may be considered recreational.
* Entertain yourself – set time for leisure activities.
* Do things you always wanted to do, but didn’t have time before..

We hope that everyone has a rewarding summer, and hopefully, you all will quickly develop a daily mantra of, “***What can I learn or discover today?***”

Do remember, the school holidays provide you good opportunity to consolidate your learning and work on the areas which you are weaker in. Some amount of revision and consolidation of learning during the school holidays can help you to be better prepared for the next stage of learning when the school reopens. To keep skills strong and learning fresh, complete the attached assignments on different subjects...

|  |  |  |
| --- | --- | --- |
| **Sl No** | **Subject** | **Assignment** |
| **1** | **English** | **Enclosure 1** |
| **2** | **Physics** | **Enclosure -1a** |
| **3** | **Chemistry** | **Enclosure -2** |
| **4** | **Biology** | **Enclosure -3** |
| **5** | **Maths** | **Enclosure - 4** |
| **6** | **Psychology** | **Enclosure - 5** |
| **7** | **Fine Arts** | **Enclosure – 5A** |
| **8** | **Hindi Vocal Music** | **Enclosure – 5B** |
| **9** | **Physical Education** | **Enclosure – 5C** |
| **10** | **Computer Science** | **Enclosure – 6** |

**ENGLISH ENCLOSURE 1**

**We are sure that all of you must have made plans to enjoy your holidays--- like visiting your grandparents, relatives, friends, watching television during the day, taking a dip in the swimming pool and some activity with your friends.**

**We wish, you enjoy every minute of this long break. It will be great if you work for better grades as well and ponder over the careers of your choice and how to take a positive step towards your goals without stressing yourselves out.**

**Wishing all of you a very enjoyable and fun packed summer break….**

**English:**

**Q1. All the questions of question bank 1-5**

**Q2. ‘Going green’ is the only answer to the threats of environmental pollution and to our livelihood. Write an article on your plans to design an eco-friendly neighbourhood with all the modern amenities in designing the layout of the building and the neighbourhood. (XII B)**

**OR**

**Design a poster on the importance of ‘Going Green’ with clearly defined plans for the same.**

**Q3. Write down the highlights of chapter 8 to 15 of the Novel.**

**Enclosure -1a**

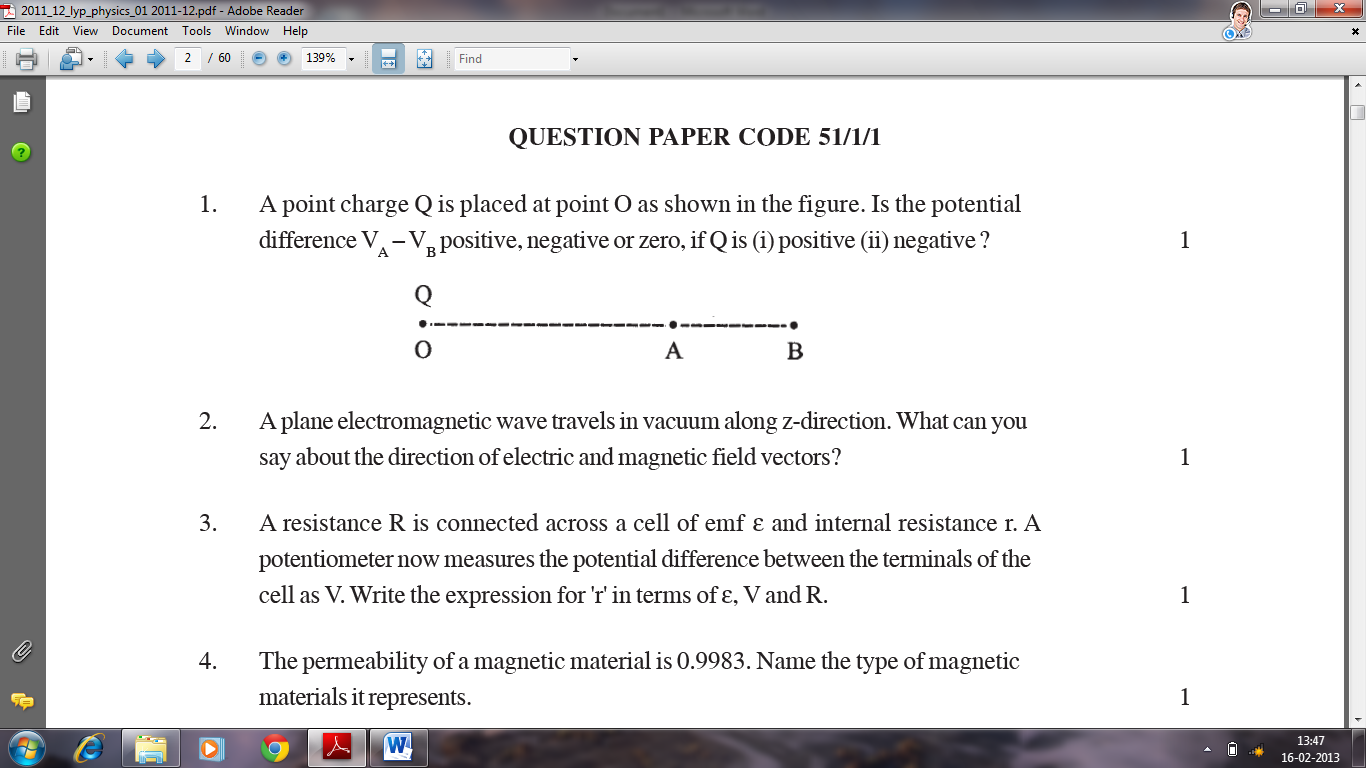
**PHYSICS**

**SECTION-A**

I. Complete activity file as discuss in the class.

**SECTION-B( 1 mark questions)**

1. Two wires of equal length, one of copper and the other of magnin have the same resistance. Which wire is thicker?
2. Mention two causes for the power loss in a transformer**.**
3. An electron moving through a magnetic field does not experiences a force. Under what condition is this possible?
4. Define electric dipole moment. Write its S.I. unit.
5. Where on the surface of Earth is the angle of dip 90o ?
6. A hollow metal sphere of radius 5 cm is charged such that the potential on its surfaceis 10 V. What is the potential at the centre of the sphere?
7. Charges of magnitudes 3Q and –2Q are located at points (2a,0,0) and (4a,0,0). Find the ratio of the flux of electric field ,due to these charges, through concentric spheres of radii 3a and 8a centered at the origin.
8. A carbon resistor has coloured bands of P, X and Z respectively and possesses a resistance of 45 x 106Ω. What are the colours represented by P, X and Z ?
9. The horizontal component of earth magnetic field is times the vertical component. Find angle of dip.
10. A point charge Q is placed at point O as shown in the figure. Is the potential difference VA – VB positive, negative or zero, if Q is (i) positive (ii) negative ?



**SECTION –C (2 marks questions**)

1. Calculate the value of resistance needed to convert a galvanometer of resistance 100 ohm which gives full deflection for a current of 5 mA into a voltmeter of 0 – 5 V.
2. If the current sensitivity of a moving coil galvanometer is increased by 20 % its resistance is also increases by 1.5 times. How much the voltage sensitivity of the Galvanometer is affected? .
3. Show that the energy stored in an inductor L, when a current I is established through is ½ LI2.
4. An electric flux of -6x103 Nm2C-1 passes normally through a spherical Gaussian surface of radius 10 cm, due to a point charge placed at the centre.

i) What is the charge enclosed by the Gaussian surface?

ii) If the radius of the Gaussian surface is doubled, how much flux would pass through the surface?

1. The electric field and electric potential at any point due to a point charge kept in air is 20 NC−1 and 10 JC−1 respectively. Calculate the magnitude of this charge.
2. The electrostatic force on a small sphere of charge 4C due to another small sphere of charge 8C in air is F. What is the distance b/w the 2 spheres. What is the force on the –8C sphere due to the first sphere. What will the force be if the spheres are dipped in a liquid having dielectric constant K.
3. A moving coil galvanometer is made of a coil of radius 10cm and has 1000 turns. The strong horse shoe magnets create a magnetic field of 0.2T and the spring has a spring constant of 0.5 N/m. Find the:

1) Galvanometer constant G

2) Current sensitivity Is

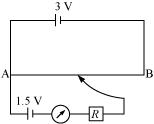
3) Voltage Sensitivity Vs

1. Two point charges 4q and q are fixed a distance 2m apart. Find the point on the line joining them at which the net electric field intensity in zero. What is the potential at this point. If a charge of magnitude –3q is placed at this point, in which direction will it move. What will be its potential energy at this point?
2. 12 cells, each of emf 1.5V and internal resistance 0.5 ohm , are arranged in m rows each containing n cells connected in series. Calculate the values of n and m for which this combination would send maximum current through an external resistance of R.

**PART-C(3 Marks questions)**

1. Describe the formula for the equivalent EMF and internal resistance for the parallel combination of two cells with EMF E1 and E2 and internal resistances r1 and r2 respectively. What is the corresponding formula for the series combination?
2. Two cells of EMF 1V, 2V and internal resistances 2 and 1 respectively are connected in (i) series, (ii) parallel. What should be the external resistance in the circuit so that the current through the resistance be the same in the two cases? In which case more heat is generated in the cells ?
3. Equal charges each of 1C are placed at x = 0, 2 , 4 , 8 , 16 cm. Find the force experienced by the charge at x=2 cm. Define electric field intensity at x=2 and find it.
4. Two identical cells of emf 1.5 V each joined in parallel provide supply to an external circuit consisting of two resistances of 17 Ω each joined in parallel. A very high resistance voltmeter reads the terminal voltage of cells to be 1.4 V. Calculate the internal resistance of each cell.
5. Why is a potentiometer preferred over a voltmeter for determining the emf of a cell? Two cells of emf E1 and E2 are connected together in two ways shown below. The balance points in a given potentiometer experiment for these two combinations of cells are found to be at 351 cm and 70.2 cm respectively. Calculate the ratio of the emfs of the two cells.



1. A potentiometer wire of length 1 m is connected to a driver cell of emf 3 V as shown in the figure. When a cell of 1.5 V emf is used in the secondary circuit, the balance point is found to be 60 cm. On replacing this cell and using a cell of unknown emf, the balance point shifts to 80 cm.

(a) Calculate unknown emf of the cell.

(b) Explain with reason, whether the circuit works, if the driver cell is replaced with a cell of emf 1 V.

1. Derive the expression for the energy stored in a parallel plate capacitor of capacitance C with air as medium between its plates having charges Q and –Q. Show that this energy can be expressed in terms of electric field ½ ε0E2Ad where A is the area of each plate and d is the separation between the plates. How will the energy stored in a fully charged capacitor change when the separation between the plates is doubled and a dielectic medium of dielectric constant 4 is introduced between the plates?
2. Describe the principle and construction of a moving coil galvanometer. Prove that current flowing in the coil in the coiled directly proportional to its deflection. What is the importance of the radial field?
3. The length of a potentiometer wire is 600 cm and it carries a current of 40 mA. For a cell of emf 2 V and internal resistance 10 ohm, the null point is found to be at 500 cm. If voltmeter is connected across the cell, the balancing length is decreased by 10 cm. Find i) the resistance of the whole wire ii) reading of the voltmeter (iii) resistance of voltmeter.
4. Calculate current drawn by the primary of a transformer which steps down 200V to 20V to operate a device of resistance 20Ω . Assume the efficiency of transformer to be 80%.
5. What is meant by sensitivity of a potentiometer? A battery E1 of 4V and variable resistance R are connected in series with wire AB. Length of wire is 1m. When a cell of emf E2 = 1.5V is connected b/w A &C , no current flows through E2. Length of AC is 60 cm.

(I) Find the potentiometer difference b/w A & B

(II) Would the method  work if the battery E1 is replaced by a cell of emf of 1v.

1. A coil of radius 8cm and 20 turns rotates about its vertical diameter with an angular speed of 50s-1. In a uniform horizontal magnetic field of magnitude 30 x 10-2 T. Find the maximum and average value of emf induced in the coil?
2. A10μF capacitor is charged by a 30V d.c and then connected across the uncharged 50μF capacitor. Calculate (i) the final potential difference across the combination and initial & final energies.
3. Three point charges of +2μc; and -3μc are Kept at the vertices A, B and C respectively of an equilateral triangle of side 20cm. what should be the sign and magnitude of the charge to be placed at the mid-point M of side BC. So that charge at a remains in equilibrium.

**Enclosure -2**

**CHEMISTRY**

1. Prepare your project Report according to your project heading project should cover these headings
2. HEADING
3. CERTIFICATE
4. ACKNOWLEDGEMENT
5. INDEX
6. INTRODUCTION
7. EXPERIMENT ( OBSERVATION TABLE , PROCESS, USES )
8. RESULT
9. CONCLUSION
10. BIBLIOGRAPHY.
11. CONCEPTUAL QUESTIONS

P block element

**VSA QUESTIONS (1 - MARK QUESTIONS)**

**GROUP 15 ELEMENTS**

1. In group 15 elements, there is considerable increase in covalent radius from N to P but small increase from As to Bi. Why? [**Hint :** Due to completely filled d- and / or f-orbitals in As, Sb and Bi].

2. The tendency to exhibit – 3 oxidation state, decreases down the group 15 elements. Explain. Why?

[**Hint :** Decrease in electronegativity down the group].

3. Maximum covalence of nitrogen is ‘4’ but the heavier elements of group 15 show covalence greater than ‘4’. Why?

4. Nitrogen exists as a diatomic molecule with a triple bond between the two atoms whereas the heavier elements of the group 15 do not exist as E2 at room temperature. Assign a reason. [**Hint :** p– pmultiple bonds are formed by N due to its small size.]

5. The ionization enthalpies of group 15 elements are higher than those of corresponding members of group 14 and 16 elements. Explain why?

6. The boiling point of PH3 is lesser than NH3. Why? 7. NO2 dimerises to form N2O4. Why? [**Hint :** Due to the presence of odd electron on N in NO2]

8. Draw the structure of N2O5 molecule.

9. How does ammonia solution react with Ag + (aq)? Write the balanced chemical equation.

10. Why does NH3 form intermolecular hydrogen bonds whereas PH3 does not? [**Hint :** Due to high electronegativity, small size of nitrogen atom and presence of lone pair of electrons on N atom]

11. Write disproportionation reaction of H3PO3?

12. How does NH3 acts as a complexing agent. [**Hint :** Ammonia acts as a Lewis base therefore, it can donate a pair of electrons to central metal atom or ion.

13. Write the reaction of PCl5 with heavy “Hypophosphorus acid is a good reducing agent.” Justify with an example. [**Hint :** 4AgNO3 + H3PO2 + 2H2O 4Ag + 4HNO3 + H3PO4.

15. Draw the structure of H4P2O7 and find out its basicity?

16. Arrange the following triatomic species in the order of increasing bond angle.

17. Why is Bi(V) a stronger oxidant than Sb(V)? [**Hint :** +3 oxidation state is more stable than +5 oxidation state in Bi].

18. How many P – O – P bonds are there in cyclotrimetaphosphoric acid?

**VSA QUESTIONS (1 - MARK QUESTIONS) (Electro chemistrty)**

1. What is a galvanic cell?

2. Give the cell representation for Daniell Cell.

3. Mention the purpose of salt-bridge placed between two half-cells of a galvanic cell?

4. Give the condition for for a cell when there is no flow of electrons or current.

5. Can you store zinc sulphate solution in a copper container? Give suitable reason. (EZn2+/Zn = – 01.76V, ECu2+/Cu = 0.34V)

6. How does electrochemical series help us in predicting whether a redox reaction is feasible or not?

7. Write Nernst equation for the electrode reaction : Mn+(aq) + ne– M(s) at 298 K and 1 bar pressure.

8. List the two factors that influence the value of cell potential of a galvanic cell.

9. Show the direction of flow of electrons in the following cell :

**BIOLOGY- HOLIDAY HOMEWORK**

**A. SOLVE BOTH THE SETS OF CT- TEST PAPERS AND PASTE IT IN YOUR HOMEWORK REGISTER.**

**B. PREPARE THE PROJECT ASSIGNED TO YOU. PASTE PICTURES,PHOTOGRAPHS, GRAPHS OR OTHER RELATED INFORMATION AS PER NEED OF YOUR PROJECT.PROJECT SHOULD CONTAIN A PROPER INDEX AND BIBLOGRAPHY.**

**C. ANSWER THE FOLLOWING QUESTIONS OF THE TASKSHEET. ANSWERS SHOULD BE TO THE POINT.**

**TASKSHEET**

1. Give two features of an ideal contraceptive.

2. Name two STD’s that spread by contaminated blood.

3. Indiscriminate diagnostic practices using X-rays etc should be avoided.Give one reason.

4. Give the technical term for foetal sex determination test based on chromosome pattern in the amniotic fluid surrounding the developing embryo.

5. Why do intensely lactating mothers not generally conceive?

6. How can pregnancy due to unprotected sex be prevented?

7 A woman’s husband is infertile. So the lady has decided to have baby by taking sperms from sperm bank. Which technique will u suggest her for her pregnancy?

8. Removal of gonads cannot be considered as a contraceptive option. Give reasons.

9. What are implants? Give their contraceptive actions.

10. All Reproductive tract infections (RTI’s) are STD’s but all STD’s are not RTI’s.Justify with example.

11. Name the hormonal composition of the oral contraceptive used by human females.Explain how does it acts as a contraceptive.

12. (a) Name the hormonal composition of oral contraceptive used by human females.Explain how it acts as a contraceptive.

(b) Name an oral pill developed by CDRI Lucknow . How is it different from other oral pills ?

13. A doctor has observed the chromosomal disorders in developing foetus and advised the couple to undergo abortion. Suggest the technique by which doctor observed the chromosomal disorders.

14. Bring out one main difference between Cu-T and LNG-20.

15. In case of an infertile couple , the male partner can inseminate normally but the mobility of the sperms is below 40 percent. Judge which kind of ART is suited in this situation to form an embryo in the laboratory, without involving a donar.

16. In GIFT gametes are transferred to the fallopian tube.Can gametes be transferred to the uterus to achieve to achieve the same result ? Explain.

17. An infertile couple is advised to adopt test-tube baby programme. Describe two principle procedures adopted for such technologies.

18. (a) Expand IUD.

(b) Why is hormone releasing IUD considered a good contraceptive to space children?

(c) How is copper releasing IUD different from mode of action from hormone releasing IUD.

20. How do surgical procedures prevent conception in humans? Mention the way it is achieved in human males.

21. Following table gives certain terms associated with ART. Fill in the spaces a,b,c,d

|  |  |
| --- | --- |
| IVF and ET | a |
| b | Introduction of zygote/embryo at 8 blastomeres into fallopian tube |
| c | Introduction of ova of a donar into fallopian tube |
| d | Introduction of semen from the husband or healthy donar into the uterus |

22. Breifly explain IVF and ET.What are the conditions in which these methods are advised?

23. What do you mean by reproductive health? Mention the different ways in which people are made aware of the significance of reproductively healthy society.

24. The alarming population growth is leading to scarcity of basic requirements. Enumerate and justify any two population control measures to overcome this problem.

25. (a) With in what age group sexually transmitted diseases are reported to be very high. Mention three practices to avoid them.

(b) Name one viral and one bacterial STD.

26. STD’s are threat to reproductive health. Describe any two such diseases , their causative agents and suggest preventive measures.

27. A large number of married couples the world over are childless.It is shocking to know that in India the female partner is often blamed for the couple being childless.

(a) Why in your opinion the female partner is often blamed for such situations in India ? Mention any two values that you as a biology student can promote to check this social evil.

(b) State any two reasons for infertility.

(c) Suggest a technique that can help the couple to have a child where the problem is with the male partner.

28. Saurabh went to watch a movie with his friends.In it , the hero was a sperm donar.One of his friend’s Raman said that sperm donation is a means to earn money. But Rahul contradicted him saying that sperm donation can help infertile couples.

Answer the following questions based on the following information:

(a) Which of the friend of Saurabh is right ?

(b) In which type of infertility cases is sperm donation helpful?

(c) What values are being depicted in the movie ?

29. Reproductive and child health care programmes are currently in operation . One of the major tasks of these programmes is to create awareness among people about the wide range of reproduction related aspects as this is important and essential for building a reproductively healthy society.

(a) Providing sex education in schools is one of the ways to meet this goal.Give four points in support of your answer.

(b) List any four indicators that indicate a reproductively healthy society.

30. (a) Name any two copper releasing IUD.

(b) Explain how do they act as effective contraceptive in human females.

31. What is meant by the term contraception? Describe the natural methods of contraception.

**Enclosure -4**

**MATHEMATICS**

**General instructions:**

1. This HHW consists of two parts (a) Complete and revise all seven worksheets(already you have) (b) three papers of CBSE board (based on 1st book)
2. All questions are compulsory.
3. This question paper consists of 14 questions divided into four sections A, B, C and D. Section A comprises of 4 questions of 1 mark each, Section B comprises of 7 questions of 4 marks each and Section C comprises of 3 questions of 6 marks each.
4. There is no overall choice.
5. **Those students who have scored less than 60% in CT have to do 3 times.**

**PAPER – 1**

**Section A**

1. If =, write the minor of the element a23
2. If
3. Simplify :
4. Write the principal values of

**Section B**

1. Find at when and
2. Show that the function f given by fis decreasing for all .
3. If A and B are square matrices of order 3 such that then find the value of
4. The radius r of the base of a right circular cone is decreasing at the rate of 2 cm/min. and its height h is increasing at the rate of 3 cm/min. When r= 3.5 cm and h= 6 cm, find the rate of change of the volume of the cone. [use ]

**Section C**

1. If
2. If
3. If
4. Prove the following, using properties of determinants:

=

1. Prove that
2. Prove that
3. Using elementary operations, find the inverse of the matrix

**Section D**

1. Show that the height of a closed right circular cylinder of given surface and maximum volume, is equal to the diameter of its base.
2. Let X and let‘’ be a binary operation on A defined by foe all X  **.**
3. show that is commutative on A.
4. show that is associative on A
5. Let A = {1,2,3,…,9} and R be the relation in A X A defined by (a, b) R (c, d) if a + d = b + c for a, b, c, dA. Prove that R is an equivalence relation. Also obtain the equivalence class [(2, 5)].

**PAPER – 2**

**Section A**

1. Write the value of .
2. Find the value of aif
3. If , then write the
4. If, then find the matrix A.

**Section B**

1. Show that all the diagonal elements of a skew symmetric matrix are zero.
2. Find at if
3. The volume of a sphere is increasing at the rate of 3 cubic centimeters per second. Find the rate at of increase of its surface area, when the radius is 2 cm.
4. Show that the function f is always increasing on **R**.

**Section C**

1. Prove the following :
2. Find the value of
3. Using properties of determinants, prove the following :

=

1. Differentiate the following function with respect to x:
2. If .
3. Show that the function f(x)=|x-3|, x ϵR, is continuous but not differentiable at x=3.
4. If x=a sint, y=a(cost + log), find .

**Section D**

1. A school wants to award its students for the values of Honesty, Regularity and Hard work with total cash award of ₹ 6,000. Three times the award money for hard work added to that given for Honesty amounts to ₹ 11,000. The award money given for Honesty and Hard work together is double the one given for Regularity. Represent the above situation algebraically and find the award money for each value, using matrix method. Apart from these values, namely Honesty, Regularity and Hard work, suggest one more value which the school must include for awards.
2. Show that the height of the cylinder of maximum volume that can be inscribed in a sphere of radius R is .Also find the maximum volume.
3. Determine whether the relation R defined on the set R of all real numbers as R={(a,b): a,b and , where S is the set of all irrational numbers}, is reflexive , symmetric and transitive.

**PAPER – 3**

**Section A**

1. If= 1 , then find .
2. If 2
3. Solve the following matrix equation for x: [x 1]= 0
4. If =, then write the value of x.

**Section B**

1. For the curve , if x increases at the rate of 2 units/sec, then find the rate of change of the slope of the curve when
2. If , then find .

**Section C**

1. Prove that
2. Prove that : 2
3. Prove the following, using properties of determinants:
4. Differentiate tan-1 () with respect to .
5. If .
6. Find the intervals in which the following function f(x)=3x4- 4x3 -12x2 +5 is
7. strictly increasing
8. strictly decreasing
9. Find the equations of the tangent and normal to the curve x =a at the point where =.

**Section D**

1. Two schools P and Q want to award their selected students on the values of Discipline, Politeness and Punctuality. The school P wants to award ₹ x, ₹ y and ₹ z each for the 3 respective values to its 3, 2 and 1 students with total award money of ₹ 1000. School Q wants to spend ₹ 1,500 to award its 4, 1 and 3 students on the respective vales (by giving the same award money for the 3 values as before). If the total amount of award for one prize on each value is ₹ 600, using matrix method find the award money for each value. Apart from the, above three values suggest one more value for awards.
2. Show that semi vertical angle of the cone of the maximum volume and of given slant height is cos-1.
3. A wire of length 34 m is to be cut into two pieces. One of the pieces os to be made onto a square and the other into a rectangle whose length is twice its breadth. What should be the lengths of the two pieces, so that the combined area of the square and the rectangle is minimum ?
4. Let **.** Let f: A🡪B be defined by f(x). Show that f is bijective.

Also, find

1. x if f-1(x)
2. f-1(7)
3. Discuss the commutativity and associativity of binary operation ‘’ defined on A {1} by the rule ab for all a,b Also find the identity element of in A and hence find the invertible elements of A.

**Enclosure -5**

**PSYCHOLOGY**

1) Learn chapter 1-4.

2) Attempt all sets of cycle tests in NCERT notebook.

3) Complete theory part of practicals done so far, in practical file.

4) Identify the cases for case study based on your interest.

**Enclosure -5A**

**FINE ARTS**

1. Visit museum and Art galleries and make report.

2. Collect reproduction of old masters (artist)and copy any one in A4 size sheet with colour.

3. Revise all the theory done in class XI.

4. Study and make nots of terminologies-----perspective, eye level ,fixed point of view, vanishing point, ratio-proporation, sketching ,drawing light & shade, land scape, vertical, horizontal, two & three dimensional, transparent & opaque colour.

5. Draw four imaginative painting based on subject from life and or nature in water colour( ½ sheet).

6. Draw two sketches daily in A4 size art file.

**Enclosure -5B**

**HINDI VOCAL MUSIC**

1. Prepare project on noted Indian musician :-

a) Pt.Krishan Rao Shankar Pandit

b) Pt.Vishnu Narayan Bhatkande

1. To revise the work done before summer vacation
2. Listen to these raga and try to understand their structure with respect to the following :-

Aroha ,Avaroha,Pakad ,Bandish of Raga(Chota khyal)

1. Bhairav
2. Bhageshari
3. Bheemplasi
4. Malkauns

**Enclosure -5C**

**PHYSICAL EDUCATION**

**PRACTICAL WORK**

ATHLETICS

1. History
2. Define track
3. General rule of athletics
4. Define throwing (shot-put, discuss, javelin and hammer)
5. Define jumping (long jump, high jump. pole vault, triple jump)

GAME & SPORTS

ANY ONE FROM BASKETBALL, CRICKET, FOOTBALL, VOLLEYBALL, HANDBALL, KHO-KHO,KABADDI, HOCKEY

1. History
2. Latest general rules of the game
3. Specifications of play fields and related sports equipments
4. Fundamental skills
5. Important tournaments
6. Related sports terminologies
7. Sports personalities
8. Sports award

**Enclosure -6**

**COMPUTER SCIENCE**

1. Prepare Your Project and practical file in computer

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Academic Year: 2018-19

**HOLIDAY HOMEWORK**

HUMANITIES (Class-XII)

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| --- | --- | --- |
| **Sl No** | **Subject** | **Assignment** |
| **1** | **English** | **Enclosure 1** |
| **2** | **Geography** | **Enclosure -1a** |
| **3** | **Mass Media** | **Enclosure -1A** |
| **4** | **Political Science** | **Enclosure -1B** |
| **5** | **Economics** | **Enclosure -2** |
| **6** | **Maths** | **Enclosure - 3** |
| **7** | **Psychology** | **Enclosure - 4** |
| **8** | **Fine Arts** | **Enclosure – 4A** |
| **9** | **Hindi Vocal Music** | **Enclosure -4B** |
| **10** | **Physical Education** | **Enclosure – 4C** |
| **11** | **English** | **Enclosure – 4D** |
| **12** | **Informatics Practice** | **Enclosure – 5** |
| **13** | **Home science** | **Enclosure 6** |

**ENGLISH ENCLOSURE 1**

We are sure that all of you must have made plans to enjoy your holidays--- like visiting your grandparents, relatives, friends, watching television during the day, taking a dip in the swimming pool and some activity with your friends.

We wish, you enjoy every minute of this long break. It will be great if you work for better grades as well and ponder over the careers of your choice and how to take a positive step towards your goals without stressing yourselves out.

Wishing all of you a very enjoyable and fun packed summer break….

English:

Q1. All the questions of question bank 1-5

Q2. ‘Going green’ is the only answer to the threats of environmental pollution and to our livelihood. Write an article on your plans to design an eco-friendly neighbourhood with all the modern amenities in designing the layout of the building and the neighbourhood. (XII B)

OR

Design a poster on the importance of ‘Going Green’ with clearly defined plans for the same.

Q3. Write down the highlights of chapter 8 to 15 of the Novel.

**Enclosure -1a**

**GEOGRAPHY**

**Do any three questions of the following (To be done on A4 size sheets.):**

Q1. Find out in the family, who has migrated to Delhi from other state. Mention the problems related to the place of origin from where migration has taken place. Analyse the reasons responsible for the migration.

Q2. Find out the activities performed by BPO.

Q3. Make a list of some of the global brands of products, their logos and the country where these are manufactured.

Q4. Talk to a vegetable vendor in your neighbourhood or your domestic help and find out if he/she has gone to school. Did he/she drop out of the school? Why? What does this tell you about his/her choices and the freedom he/she has? Note how his/her opportunities were limited because of his/her gender, caste and income.

**Enclosure -1A**

**MASS MEDIA**

I. Revise and learn complete syllabus covered

II. Write the answers of the following questions in your notebook

1. Name two media conglomerates.  
2. How does editing enhance violence?  
3. What is subtle propaganda?  
4. Give another name for the needle theory.  
5. What is non-fiction film?  
6. What is the literal meaning of mise-en-scene?  
7. What is an editorial page?  
8. What is op-ed page?  
9. What is broad sheet?  
10. What is tabloid?  
11. Give one feature of business website  
12,   Who was the first controller or director General for the AIR?  
13. Define mass media as an aspiration driver.  
14. Name two types of propaganda  
15. Who proposed two step flow theory?  
16. Give one director of neo-realistic cinema  
17. How the term cinema was coined  
18. What is a fiction film ?  
19. Give 2 features of Uses and Gratification model.

**Enclosure -1B**

**POLITICAL SCIENCE**

Learn Chapters 1-9 Book 1

**Enclosure -2**

**ECONOMICS**

1. Numerical Questions related with cost and revenue from the book of S.K.Aggarwal.

2. Distinguish between movement along and shift in supply curve.

3. Define breakeven point. Show its diagram.

4. Define producer equilibrium with the help of schedule and diagram by MR and MC approach.

5. Giving examples, explain the meaning of cost in Economics.

6. State the distinction between explicit cost and implicit cost. Give an example of each.

7. Distinguish between fixed cost and variable cost. Give two examples of each.

8. What is meant by average variable cost (AVC)? Why is AVC Curve U-shaped?

9. What is the relationship between marginal cost and average variable cost?

10. Explain the relation between marginal cost and average cost.

11. Discuss the relationship between TVC and MC.

*OR*

Draw a diagram showing TVC in terms of the area under MC curve.

12. Draw total variable cost, total cost and total fixed cost curves in a single diagram.

13. Explain the behaviour of average fixed cost. Use Diagram.

14. Explain the relationship between average variable cost and marginal cost with the help of a diagram.

15. Why does the difference between average total cost and average variable cost decrease with an increase in the level of output? Can these two be equal at some level of output? Explain.

16. Define average fixed cost (AFC), average variable cost (AVC) and average cost (AC). Draw diagram with the help of an imaginary schedule and discuss the shapes of AFC, AVC and A C curves.

**Enclosure -3**

**MATHEMATICS**

**General instructions:**

1. This HHW consists of two parts (a) Complete and revise all seven worksheets(already you have) (b) three papers of CBSE board (based on 1st book)
2. All questions are compulsory.
3. This question paper consists of 14 questions divided into four sections A, B, C and D. Section A comprises of 4 questions of 1 mark each, Section B comprises of 7 questions of 4 marks each and Section C comprises of 3 questions of 6 marks each.
4. There is no overall choice.
5. **Those students who have scored less than 60% in CT have to do 3 times.**

**PAPER – 1**

**Section A**

1. If =, write the minor of the element a23
2. If
3. Simplify :
4. Write the principal values of

**Section B**

1. Find at when and
2. Show that the function f given by fis decreasing for all .
3. If A and B are square matrices of order 3 such that then find the value of
4. The radius r of the base of a right circular cone is decreasing at the rate of 2 cm/min. and its height h is increasing at the rate of 3 cm/min. When r= 3.5 cm and h= 6 cm, find the rate of change of the volume of the cone. [use ]

**Section C**

1. If
2. If
3. If
4. Prove the following, using properties of determinants:

=

1. Prove that
2. Prove that
3. Using elementary operations, find the inverse of the matrix

**Section D**

1. Show that the height of a closed right circular cylinder of given surface and maximum volume, is equal to the diameter of its base.
2. Let X and let‘’ be a binary operation on A defined by foe all X  **.**
3. show that is commutative on A.
4. show that is associative on A
5. Let A = {1,2,3,…,9} and R be the relation in A X A defined by (a, b) R (c, d) if a + d = b + c for a, b, c, dA. Prove that R is an equivalence relation. Also obtain the equivalence class [(2, 5)].

**PAPER – 2**

**Section A**

1. Write the value of .
2. Find the value of aif
3. If , then write the
4. If, then find the matrix A.

**Section B**

1. Show that all the diagonal elements of a skew symmetric matrix are zero.
2. Find at if
3. The volume of a sphere is increasing at the rate of 3 cubic centimeters per second. Find the rate at of increase of its surface area, when the radius is 2 cm.
4. Show that the function f is always increasing on **R**.

**Section C**

1. Prove the following :
2. Find the value of
3. Using properties of determinants, prove the following :

=

1. Differentiate the following function with respect to x:
2. If .
3. Show that the function f(x)=|x-3|, x ϵR, is continuous but not differentiable at x=3.
4. If x=a sint, y=a(cost + log), find .

**Section D**

1. A school wants to award its students for the values of Honesty, Regularity and Hard work with total cash award of ₹ 6,000. Three times the award money for hard work added to that given for Honesty amounts to ₹ 11,000. The award money given for Honesty and Hard work together is double the one given for Regularity. Represent the above situation algebraically and find the award money for each value, using matrix method. Apart from these values, namely Honesty, Regularity and Hard work, suggest one more value which the school must include for awards.
2. Show that the height of the cylinder of maximum volume that can be inscribed in a sphere of radius R is .Also find the maximum volume.
3. Determine whether the relation R defined on the set R of all real numbers as R={(a,b): a,b and , where S is the set of all irrational numbers}, is reflexive , symmetric and transitive.

**PAPER – 3**

**Section A**

1. If= 1 , then find .
2. If 2
3. Solve the following matrix equation for x: [x 1]= 0
4. If =, then write the value of x.

**Section B**

1. For the curve , if x increases at the rate of 2 units/sec, then find the rate of change of the slope of the curve when
2. If , then find .

**Section C**

1. Prove that
2. Prove that : 2
3. Prove the following, using properties of determinants:
4. Differentiate tan-1 () with respect to .
5. If .
6. Find the intervals in which the following function f(x)=3x4- 4x3 -12x2 +5 is
7. strictly increasing
8. strictly decreasing
9. Find the equations of the tangent and normal to the curve x =a at the point where =.

**Section D**

1. Two schools P and Q want to award their selected students on the values of Discipline, Politeness and Punctuality. The school P wants to award ₹ x, ₹ y and ₹ z each for the 3 respective values to its 3, 2 and 1 students with total award money of ₹ 1000. School Q wants to spend ₹ 1,500 to award its 4, 1 and 3 students on the respective vales (by giving the same award money for the 3 values as before). If the total amount of award for one prize on each value is ₹ 600, using matrix method find the award money for each value. Apart from the, above three values suggest one more value for awards.
2. Show that semi vertical angle of the cone of the maximum volume and of given slant height is cos-1.
3. A wire of length 34 m is to be cut into two pieces. One of the pieces os to be made onto a square and the other into a rectangle whose length is twice its breadth. What should be the lengths of the two pieces, so that the combined area of the square and the rectangle is minimum ?
4. Let **.** Let f: A🡪B be defined by f(x). Show that f is bijective.

Also, find

1. x if f-1(x)
2. f-1(7)
3. Discuss the commutativity and associativity of binary operation ‘’ defined on A {1} by the rule ab for all a,b Also find the identity element of in A and hence find the invertible elements of A.

**Enclosure -4**

**PSYCHOLOGY**

1) Learn chapter 1-4.

2) Attempt all sets of cycle tests in NCERT notebook.

3) Complete theory part of practicals done so far, in practical file.

4) Identify the cases for case study based on your interest.

**Enclosure -4A**

**FINE ARTS**

1. Visit museum and Art galleries and make report.

2. Collect reproduction of old masters (artist)and copy any one in A4 size sheet with colour.

3. Revise all the theory done in class XI.

4. Study and make nots of terminologies-----perspective, eye level ,fixed point of view, vanishing point, ratio-proporation, sketching ,drawing light & shade, land scape, vertical, horizontal, two & three dimensional, transparent & opaque colour.

5. Draw four imaginative painting based on subject from life and or nature in water colour( ½ sheet).

6. Draw two sketches daily in A4 size art file.

**Enclosure -4B**

**HINDI VOCAL MUSIC**

1. Prepare project on noted Indian musician :-

a) Pt.Krishan Rao Shankar Pandit

b) Pt.Vishnu Narayan Bhatkande

1. To revise the work done before summer vacation
2. Listen to these raga and try to understand their structure with respect to the following :-

Aroha ,Avaroha,Pakad ,Bandish of Raga(Chota khyal)

1. Bhairav
2. Bhageshari
3. Bheemplasi
4. Malkauns

**Subject: Home Science Enclosure 6**

1. **Complete practical file till unit II ( meal planning)**
2. **Get an account opening form of bank/post office**
3. **Collect bank withdrawal slip & photocopy of cancelled cheques for practical file**
4. **Prepare label for AGMARK, ISI,FPO & Woolmark**
5. **Practice simple stitches & prepare sample samples for practical file.**
6. **Revise the entire syllabus covered till date.**

**Enclosure -4C**

**PHYSICAL EDUCATION**

**PRACTICAL WORK**

ATHLETICS

1. History
2. Define track
3. General rule of athletics
4. Define throwing (shot-put, discuss, javelin and hammer)
5. Define jumping (long jump, high jump. pole vault, triple jump)

GAME & SPORTS

ANY ONE FROM BASKETBALL, CRICKET, FOOTBALL, VOLLEYBALL, HANDBALL, KHO-KHO,KABADDI, HOCKEY

1. History
2. Latest general rules of the game
3. Specifications of play fields and related sports equipments
4. Fundamental skills
5. Important tournaments
6. Related sports terminologies
7. Sports personalities
8. Sports award

**Enclosure -4D**

**INFORMATICS PRACTICES**

1. Prepare Your Project and practical file in computer.

:

**PRAGATI PUBLIC SCHOOL, DWARKA**

Academic Year: 2018-19

**HOLIDAY HOMEWORK**

COMMERCE (Class-XII)

The word ‘holiday’ is very pleasing to our ears. We are very glad when we get holidays like the summer vacation. Object of holidays -We work hard during the working days of the school. Our brain is taxed. It requries some rest after deep studies. Hence we get long holidays for rest. But we should not waste our time in idleness. It is true that we are not to follow the dull routine of the school. But we must spend the vacation profitably.

Holidays are the time for the parents to become teachers and friends! Vacations help to rejuvenate your child and develop an everlasting bond between you and your child by devoting your precious time towards him/her. There are times when vacation days seems to run slow, especially when you are used to being always busy at school. Planning and being conscious about how you spend your free time allows you to accomplish more even when you are on vacation. So, here are some tips on how to make the most out of your vacation :

* Make a schedule – list down things you want to accomplish.
* Learn new skills – whether it’s a new hobby or a new career.
* Read a few books – reading is always an investment.
* Be active – sports and exercise may be considered recreational.
* Entertain yourself – set time for leisure activities.
* Do things you always wanted to do, but didn’t have time before..

We hope that everyone has a rewarding summer, and hopefully, you all will quickly develop a daily mantra of, “***What can I learn or discover today?***”

Do remember, the school holidays provide you good opportunity to consolidate your learning and work on the areas which you are weaker in. Some amount of revision and consolidation of learning during the school holidays can help you to be better prepared for the next stage of learning when the school reopens. To keep skills strong and learning fresh, complete the attached assignments on different subjects….

|  |  |  |
| --- | --- | --- |
| **Sl No** | **Subject** | **Assignment** |
| **1** | **English** | **Enclosure 1** |
| **2** | **Business Studies** | **Enclosure -1a** |
| **3** | **Accountancy** | **Enclosure -2** |
| **4** | **Economics** | **Enclosure -2A** |
| **5** | **Maths** | **Enclosure - 3** |
| **6** | **Psychology** | **Enclosure - 4** |
| **7** | **Fine Arts** | **Enclosure – 4A** |
| **8** | **Hindi Vocal Music** | **Enclosure – 4B** |
| **9** | **Physical Education** | **Enclosure – 4C** |
| **10** | **English** | **Enclosure – 4D** |
| **11** | **Informatics Practice** | **Enclosure – 5** |

**Enclosure -1**

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**English:**

**Q1. All the questions of question bank 1-5**

**Q2. ‘Going green’ is the only answer to the threats of environmental pollution and to our livelihood. Write an article on your plans to design an eco-friendly neighbourhood with all the modern amenities in designing the layout of the building and the neighbourhood. (XII B)**

**OR**

**Design a poster on the importance of ‘Going Green’ with clearly defined plans for the same.**

**Q3. Write down the highlights of chapter 8 to 15 of the Novel.**

**BUSINESS STUDIES Enclosure -1a**

**Value Based Questions (To be answered in the Question Bank register)**

Q1. ABC Ltd. has recently added a fairness cream to its existing line of cosmetics. Their advertisement shows a prominent Bollywood personality promoting their product. In the advertisement, the girls who use this cream are fair and more popular at their workplace/college as compared to those who are not. Hence they are advised to use this cream.

(a) Explain briefly any three objections to advertisements.

(b) List any four values which ABC Ltd. should have kept in mind while advertising their product.

Q2. A Company manufacturing mouth fresheners made an attractive label for their product but did not mention its date of manufacture, ingredients and did not state the required statutory warning.

(a) Briefly explain any three functions performed by a label.

(b) State any four values that have been ignored by the Company.

Q3. Mr. Aryan went to a chemist and purchased some antibiotics for his wife who was suffering from high fever. However, he forgot to take a cash memo for the same. After consuming those antibiotics, his wife’s condition deteriorated and she had to be hospitalized. Later on it was found that the medicines were expired.

(a) Do you think Mr. Aryan can take legal action against the chemist? Also, do you think Mr. Aryan has been a responsible consumer?

(b) List any two values that have not been adhered to by the chemist.

Q4. A vegetable vendor uses stones as weights to sell his vegetables in order to increase his profits. Many people purchased vegetables from him without any objection. Rahul, a customer objects to this and with the help of some local people forces the vendor to use correct weights. What values does Rahul exhibit in his action?

Q5. XYZ Ltd., a firecracker manufacturing firm had launched some new products on Diwali which attracted many buyers. However, the product package did not have adequate ‘directions for use’, because of which many accidents took place. Despite the accidents, the product was not withdrawn from the market by the manufacturers. According to CPA 1986, which consumer rights are being violated?

Q6. Shalini, after acquiring a degree in Hotel Management and Business Administation took over her family food processing company of manufacturing pickles, jams and squashes. The business was established by her great grandmother and was doing reasonably well. However the fixed operating costs of the business were high and the cash flow position was weak. She wanted to undertake modernisation of the existing business to introduce the latest manufacturing processes and diversify into the market of chocolates and candies. She was very enthusiastic and approached a finance consultant, who told her that approximately Rs.50 lakh would be required for undertaking the modernization and expansion programme. He also informed her that the stock market was going through a bullish phase.

(a) Keeping the above considerations in mind, name the source of finance Shalini should not choose for financing the modernization and expansion of her food processing business. Give one reason in support of your answer.

(b) Explain any two other factors, apart from those stated in the above situation, which Shalini should keep in mind while taking this decision.

**Project One: Elements of Business Environment (Select any one element of the following)**:

1. Changes witnessed over the last few years on mode of packaging and its economic impact.

a) The changes in transportation of fruits and vegetables such as cardboard crates being used in

place of wooden crates, etc. Reasons for above changes.

b) Milk being supplied in glass bottles, later in plastic bags and now in tetrapack and through

vending machines.

c) Plastic furniture [doors and stools] gaining preference over wooden furniture.

d) The origin of cardboard and the various stages of changes and growth.

e) Brown paper bags packing to recycled paper bags to plastic bags and cloth bags.

f) Re use of packaging [bottles, jars and tins] to attract customers for their products.

g) The concept of pyramid packaging for milk.

h) Cost being borne by the consumer/manufacturer.

i) Packaging used as means of advertisements.

2. The reasons behind changes in the following:

(a) “Coca – Cola and Fanta in the seventies to Thums up and Campa Cola in the eighties to Pepsi and Coke in nineties.” The students to enquire about

i) Reasons of stopping the manufacturing of the above mentioned drinks in India THEN.

ii) The introduction of Thums up and Campa cola range.

iii) Re entry of Coke and introduction of Pepsi in the Indian market.

iv) Factors responsible for the change.

v) Other linkages with the above.

vi) Leading brands and the company having the highest market share.

vii) Different local brands venturing in the Indian market.

viii) The rating of the above brands in the market.

ix) The survival and reasons of failure in competition with the international brands.

x) Other observations made by the students

3. Changing role of the women in the past 25 years relating to joint families, nuclear families, women as a bread earner of the family, changes in the requirement trend of mixers, washing machines,

micro wave and standard of living.

4. The changes in the pattern of import and export of different Products.

5. The trend in the changing interest rates and their effect on savings.

6. A study on child labour laws, its implementation and consequences.

7. The state of anti plastic campaign, the law, its effects and implementation.

**Project Two: Principles of Management**

1. The students are to visit any one of the following organisation ad observe the application of the general Principles of management advocated by Fayol :-

(a) A departmental store. (c) A fast food outlet.

(b) An Industrial unit. (d) Any other organisation approved by the teacher.

**III. Project Three: Stock Exchange**

Undertake a project to study the values of investing and utilising the stock market. Bring out important lessons about the economy, mathematics and financial responsibility. The basis of this project should be to learn about the stock market while investing a specified amount of fake money in certain stocks. Students are to study the results and buy and sell as they see fit. The students are expected to:

(a) Develop a brief report on History of Stock Exchanges in India.

(b) Prepare a list of at least 25 companies listed on a Stock Exchange.

(c) To make an imaginary portfolio totaling a sum of Rs. 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

You are required to report the prices of the stocks on daily basis and present it diagrammatically on the graph paper. Find the value of your investments and accordingly rearrange their portfolio. The project work should cover the following aspects;

(a) Graphical presentation of the share prices of different companies on different dates.

(b) Change in market value of shares due to change of seasons, festivals, natural and human disasters.

(c) Change in market value of shares due to change in political environment/ policies of various

countries/crisis in developed countries or any other reasons

(d) Identify the top ten companies out of the 25 selected on the basis of their market value of shares.

**Project Four : Marketing**

You are required to make a project on any one of the product/service given in the table appended below, keeping in mind the following.

(a) Why have they selected this product/service?

(b) Find out 5 competitive brands that exist in the market.

(c) What permission and licenses would be required to make the product?

(d) What are your competitors Unique Selling Proposition.[U.S.P.]?

(e) Does your product have any range give details?

(f) What is the name of your product?

(g) Enlist its features.

(h) Draw the Label of your product.

(i) Draw a logo for your product.

(j) Draft a tag line.

(k) What is the selling price of your competitor’s product?

(l) What is the profit margin in percentage to the

(i) Manufacturer.

(ii) Wholesaler.

(iii) Retailer.

(m) How will your product be packaged?

(n) Which channel of distribution are you going to use? Give reasons for selection?

(o) Decisions related to warehousing, state reasons.

(q) List 5 ways of promoting your product.

(r) What is going to be your U.S.P?

(s) What means of transport you will use and why?

(t) Draft a social message for your label.

(u) What cost effective techniques will you follow for your product.

(v) What cost effective techniques will you follow for your promotion plan.





**enclosure -2**

**ACCOUNTANCY**

Practice the following questions in your Question bank register.

1. Chapter 2 – Additional question page 2.54 to 2.58
2. Chapter 3 – Additional question page 3.134 to 3.149
3. Chapter 4 – Additional question page 4.120 to 4.133

**Enclosure -2A**

**ECONOMICS**

1. Numerical Questions related with cost and revenue from the book of S.K.Aggarwal.

2. Distinguish between movement along and shift in supply curve.

3. Define breakeven point. Show its diagram.

4. Define producer equilibrium with the help of schedule and diagram by MR and MC approach.

5. Giving examples, explain the meaning of cost in Economics.

6. State the distinction between explicit cost and implicit cost. Give an example of each.

7. Distinguish between fixed cost and variable cost. Give two examples of each.

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9. What is the relationship between marginal cost and average variable cost?

10. Explain the relation between marginal cost and average cost.

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*OR*

Draw a diagram showing TVC in terms of the area under MC curve.

12. Draw total variable cost, total cost and total fixed cost curves in a single diagram.

13. Explain the behaviour of average fixed cost. Use Diagram.

14. Explain the relationship between average variable cost and marginal cost with the help of a diagram.

15. Why does the difference between average total cost and average variable cost decrease with an increase in the level of output? Can these two be equal at some level of output? Explain.

16. Define average fixed cost (AFC), average variable cost (AVC) and average cost (AC). Draw diagram with the help of an imaginary schedule and discuss the shapes of AFC, AVC and A C curves.

**Enclosure -3**

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2. If
3. Simplify :
4. Write the principal values of

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1. Find at when and
2. Show that the function f given by fis decreasing for all .
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4. If x=a sint, y=a(cost + log), find .

**Section D**

1. A school wants to award its students for the values of Honesty, Regularity and Hard work with total cash award of ₹ 6,000. Three times the award money for hard work added to that given for Honesty amounts to ₹ 11,000. The award money given for Honesty and Hard work together is double the one given for Regularity. Represent the above situation algebraically and find the award money for each value, using matrix method. Apart from these values, namely Honesty, Regularity and Hard work, suggest one more value which the school must include for awards.
2. Show that the height of the cylinder of maximum volume that can be inscribed in a sphere of radius R is .Also find the maximum volume.
3. Determine whether the relation R defined on the set R of all real numbers as R={(a,b): a,b and , where S is the set of all irrational numbers}, is reflexive , symmetric and transitive.

**PAPER – 3**

**Section A**

1. If= 1 , then find .
2. If 2
3. Solve the following matrix equation for x: [x 1]= 0
4. If =, then write the value of x.

**Section B**

1. For the curve , if x increases at the rate of 2 units/sec, then find the rate of change of the slope of the curve when
2. If , then find .

**Section C**

1. Prove that
2. Prove that : 2
3. Prove the following, using properties of determinants:
4. Differentiate tan-1 () with respect to .
5. If .
6. Find the intervals in which the following function f(x)=3x4- 4x3 -12x2 +5 is
7. strictly increasing
8. strictly decreasing
9. Find the equations of the tangent and normal to the curve x =a at the point where =.

**Section D**

1. Two schools P and Q want to award their selected students on the values of Discipline, Politeness and Punctuality. The school P wants to award ₹ x, ₹ y and ₹ z each for the 3 respective values to its 3, 2 and 1 students with total award money of ₹ 1000. School Q wants to spend ₹ 1,500 to award its 4, 1 and 3 students on the respective vales (by giving the same award money for the 3 values as before). If the total amount of award for one prize on each value is ₹ 600, using matrix method find the award money for each value. Apart from the, above three values suggest one more value for awards.
2. Show that semi vertical angle of the cone of the maximum volume and of given slant height is cos-1.
3. A wire of length 34 m is to be cut into two pieces. One of the pieces os to be made onto a square and the other into a rectangle whose length is twice its breadth. What should be the lengths of the two pieces, so that the combined area of the square and the rectangle is minimum ?
4. Let **.** Let f: A🡪B be defined by f(x). Show that f is bijective.

Also, find

1. x if f-1(x)
2. f-1(7)
3. Discuss the commutativity and associativity of binary operation ‘’ defined on A {1} by the rule ab for all a,b Also find the identity element of in A and hence find the invertible elements of A.

**Enclosure -4**

**PSYCHOLOGY**

1) Learn chapter 1-4.

2) Attempt all sets of cycle tests in NCERT notebook.

3) Complete theory part of practicals done so far, in practical file.

4) Identify the cases for case study based on your interest.

**Enclosure -4A**

**FINE ARTS**

1. Visit museum and Art galleries and make report.

2. Collect reproduction of old masters (artist) and copy any one in A4 size sheet with colour.

3. Revise all the theory done.

4. Study and make notes of terminologies-----perspective, eye level, fixed point of view, vanishing point, ratio-proporation, sketching ,drawing light & shade, land scape, vertical, horizontal, two & three dimensional, transparent & opaque colour.

5. Draw four imaginative painting based on subject from life and or nature in water colour( ½ sheet).

6. Draw two sketches daily in A4 size art file.

**Enclosure -4B**

**HINDI VOCAL MUSIC**

1. Prepare project on noted Indian musician :-

a) Pt.Krishan Rao Shankar Pandit

b) Pt.Vishnu Narayan Bhatkande

1. To revise the work done before summer vacation
2. Listen to these raga and try to understand their structure with respect to the following :-

Aroha ,Avaroha,Pakad ,Bandish of Raga(Chota khyal)

1. Bhairav
2. Bhageshari
3. Bheemplasi
4. Malkauns

**Enclosure -4C**

**PHYSICAL EDUCATION**

**PRACTICAL WORK**

ATHLETICS

1. History
2. Define track
3. General rule of athletics
4. Define throwing (shot-put, discuss, javelin and hammer)
5. Define jumping (long jump, high jump. pole vault, triple jump)

GAME & SPORTS

ANY ONE FROM BASKETBALL, CRICKET, FOOTBALL, VOLLEYBALL, HANDBALL, KHO-KHO,KABADDI, HOCKEY

1History

2Latest general rules of the game

3Specifications of play fields and related sports equipments

4Fundamental skills

5Important tournaments

6Related sports terminologies

7Sports personalities

8Sports award

**Enclosure -5**

**INFORMATICS PRACTICES**

1. Prepare Your Project and practical file in computer.