MRCR Public School, Julana

HOLIDAY HOMEWORK
CLASS-XII

Name :-------------------

Father's Name :------------------

Village :-----------------

Dear Parents,

For this summer vacation, we have planned chapterwise assignments and activities to keep the children engaged and also to help them in channelizing their energies. Kindly help and guide your ward in completing his/her work and also in exploring his/her creative self.

Note- Parents to download the Holiday homework from school website

http://mrcrpublicschool.co.in

General Instructions-

- This Holiday homework is planned by providing the chapter wise questions and worksheets which are beyond of their notebooks and will help them to revise the periodical syllabus.
- Make a set routine for him/her to do holiday homework as regular which will definitely to practice improves his/her learning and writing skills instead of forcing them to do their holiday homework at the eleventh hour.
- Encourage your child to cultivate the reading habit because it will not only enhances the knowledge acquired but also develops the vocabulary, language skills and improves spellings. Encourage your child to read newspaper, G.K book and current affairs to update himself/herself.
- Encourage your child to go out and play because sports instill discipline, generate sporting spirits, channelize energies constructively.
- Spend quality time with your child by engaging him / her in activities based on enhancing his / her powers of observation and imagination.
- Make sure that the Holiday Homework is to be done according to the given instructions and with neat and tidy handwriting.
- Above mentioned guidelines will help your child to become a smart and an active learner.

English

1. Choose any 5 comprehension passages from practice book and do in holiday homework note book.
2. Read the news paper daily and cut samples of the following in holiday homework note book.
   a) Reports b) Articles c) Posters   d) Classified advertisement
3. Learn and revise all the syllabus of PT-I

हिन्दी

1 निम्न पर 250-300 शब्दों में निबंध लिखिए।
   क) अच्छी संगति विद्यार्थी जीवन में कितनी लाभकारी   ख) राष्ट्रभाषा हिन्दी का महत्व
   ग) विद्यार्थी जीवन में अनुशासन का महत्व   घ) जीवन का लक्ष्य
2 निम्न पत्र लिखिए व याद कीजिए।
   क) आपका मित्र बोर्ड की परीक्षा में प्रथम घोषित किया गया है। इस अवसर पर उसे बधाई पत्र लिखिए।
   ख) आपके मोहल्ले की नालियों की समुचित सफाई व्यवस्था न होने के कारण हो रही परेशानी की तरफ ध्यान आकर्षित करवाते हुए नगर निगम के स्वास्थ्य अधिकारी को पत्र लिखिए।
   ग) अपने विद्यालय के प्रधानाचार्य को छात्रवृति के लिए आवेदन लिखिए।
   घ) किसी समाचार-पत्र के संपादक को पत्र लिखिए, जिसमें दिल्ली में बढ़ती हुई अपराध-वृति की और अधिकारियों का ध्यान आकृष्ट कराया गया हो।
   ड़) आप रमेश है और व्यास कालोनी बीकानेर (राजस्थान) के निवासी है। अपने छोटे भाई को पत्र लिखिए कि वह अपने स्कूल में सदा उपस्थित रहे और परीक्षा की भली-भाँति तैयारी करें।
3 निम्न पर आलेख लिखिए।
   क) ग्लोबल वार्मिंग : सबकी चिंता का विषय   ख) स्वच्छ भारत की दिशा में अद्भुत पहल
   ग) बढ़ती मँहगाई एक गंभीर समस्या।
4 निबंध पाठों का सार लिखिए व याद कीजिए।
   क) भक्तिन   ख) बाजार दर्शन
5 हरिवंशराय बच्चन व महादेवी वर्मा के जीवन परिचय के बारे में लिखिए व इनके साहित्य व रचनाओं को याद कीजिए।
6 अपनी पाठ्य पुस्तकों में (हिन्दी) 500 कठिन शब्द लिखिए व याद कीजिए।

Mathematics

- Revise NCERT chapter- 1,2,3,4 with miscellaneous exercise & examples for class test.
- Revise Elements of Mathematics' chapter-1,2,3 and 4 with HOTS objective, short and very short question for class test.
  Project:
- Draw graph of trigonometric and inverse trigonometric function on notebook with Explaination.
- 10 Recent research in field of mathematics from last 5 years.
- Prepare short notes for each chapter (1,2,3,4)
- Assignment -Only for science student.

Physics
ELECTROSTATICS

1. Why do the electrostatic field lines not form the closed loops ?
2. What is the electric flux through a cube of side 1cm which encloses an electric dipole ?
3. Two equal balls having equal positive charge q coulombs are suspended by two insulating strings of equal length. What would be the effect on the force when a plastic sheet is inserted between the two ?
4. Why do the electric field lines never cross each other ?
5. Two charges of magnitudes -2Q and +Q are located at points (a,0) and (4a,0) respectively. What is the electric flux due to these charges through a sphere of radius 3a with its centre at the origin ?
6. Distinguish between a dielectric and a conductor

7. A charge q is placed at the centre of a cube. What is the electric flux passing through a single face to the cube?

8. An electric dipole of length 4cm, when placed with its axis making an angle of 60^0 with a uniform electric field, experiences a torque of $4\sqrt{3}N-m$. Calculate the potential energy of the dipole, if it has charge $\pm 8nC$

9. Given a uniform electric field $E = 5 \times 10^3 \hat{i} \, N / C$, find the flux of this field through a square of 10 cm on a side whose plane is parallel to the XZ-plane. What would be the flux through the same square, if the plane makes an angle of 30^0 with the X-axis ?

10. An electric dipole is held in a uniform electric field
i. Show that the net force facing on it is zero
ii. The dipole is aligned parallel to the field. Fin the work done in rotating it through the angle of 180^0

11. A hollow cylindrical box of length 1m and area of cross-section $25cm^2$ is placed in a three dimensional coordinate system as shown in the figure. The electric field in the region is given by $E = 50 \times \hat{i}$, where E is in NC^{-1} and x is in metre. Find
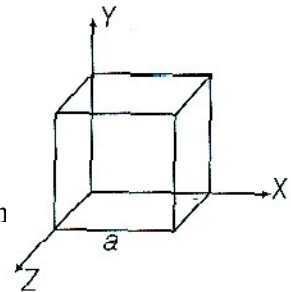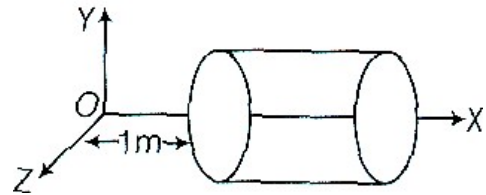
(a) Net flux through the cylinder
(b) Charge enclosed by the cylinder

12. (i) Define electric flux. Write its SI unit. Gauss' law in electrostatics is true for any closed surface, on matter what its shape of size is. Justify the statement with the help of a suitable example.

(ii) Use Gauss' law to prove that the electric field inside a uniformly charged spherical shell is zero.

13.   An electric dipole of dipole moment p consists of point charges +q and –q separated by a distance 2a apart. Deduce the expression for the electric field E due to the dipole at a distance x from the centre of the dipole on its axial line in terms of the dipole moment P. Hence, show that in the limit
$$x \gg a, E \to 2p / (4\pi\varepsilon_0 \, x^3)$$

(ii) Given the electric field in the region $E = 2 \times \hat{i}$, find the net electric flux through thecube and the charge enclosed by it.
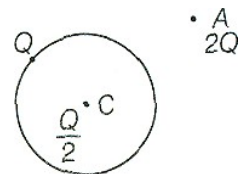
14. Using Gauss' law, deduce the expression for the electric field due to a uniformly charged spherical conducting shell of radius R at a point (i) outside and (ii) inside the shell. Plot a graph showing variation of electric field as a function of r>R and r<R (r being the distance from the centre of the shell)

(ii) (i) Define electric flux. Write its SI units.

(iii) Using Gauss' law, prove that the electric field at a point due to a uniformly charged infinite plane sheet is independent of the distance from it.

(iv) How is the field directed if (a) the sheet is positively charged,(b) negatively charged ?

15. For any charge configuration, equipotential surface through a point is normal to the electric field. Justify your answer

16. Two charges $2\mu C$ and $-2\mu C$ are placed at points A and B, 5cm apart. Depict an equipotential surface of the system

17. A capacitor has been charged by a DC source. What are the magnitude of conduction and displacement current, when it is fully charged ?

18. What is the geometrical shape of equipotential surfaces due to a single isolated charge ?

19. Why is electrostatic potential constant throughout the volume of the conductor and has the same value as on its surface?

20. A parallel plate capacitor of capacitance C is charged to a potential V. It is then connected to another uncharged capacitor having the same capacitance. Find out the ratio of the energy stored in the combined system to that storedinitially in the single capacitor

21. An electric dipole of length 4cm, when placed with its axis making an angle of 60^0 with a uniform electric field, experiences a torque of $\sqrt{3}$ N-m. Calculate the potential energy of the dipole, if it has charge $\pm 8nC$

4

22. A capacitor made of two parallel plate each of the plate A and separation d, is being charged by an external sinusoidal time varying source. Show that the displacement current inside the capacitor is the same as the current charging the capacitor.

23. Calculate the potential difference and the energy stored in the capacitor C_2in the circuit shown in the figure. Given potential at A is 90V. $C_1 = 20\,\mu F$, $C_2 = 30\,\mu F$, $C_3 = 15\,\mu F$

24. Two capacitors of unknown capacitances C_1 and C_2 are connected first in series and then in parallel across a battery of 100V. If the energy stored in the two combinations is 0.045 J and 0.25J respectively, then determine the value of C_1 and C_2. Also, calculate the charge of each capacitor in parallel combination

25. (i) Explain, using suitable diagram, the difference in the behavior of a

(a) Conductor and

(ii) Dielectric in the presence of external electric field. Define the terms polarization of a dielectric and white its relation with susceptibility.A thin metallic spherical shell of radius R carries a charge Q on its surface. A point

charge $\frac{Q}{2}$ — is placed at its centre C and another charge +2Q is placed outside the shell at a distance x from the

centre as shown in the figure. Find (a) the force on the charge at the centre of shell and at the point A, (b) theelectric flux through the shell

26. (i)   Derive the expression for the energy stored in parallel plate capacitor. Q $\bullet \begin{matrix} A \\ 2Q \end{matrix}$
Hence, obtain the expression for the energy density of the electric field.
(ii) A fully charged parallel plate capacitor is connected across an uncharged identical capacitor. Show that the energy   stored   in   the $\dfrac{Q}{2} \bullet C$
combination is less than storedinitially in the single capacitor

Calculate the work done to bring an electron from infinite to a point which is located at a distance r from an infinitethin charged sheet

Projects:

- Tamanna- Capacitor
- Yashika- Electric Dipole
- Khushi L- Gauss' Theorem
- Khushi A- Electric potential, equipotential surfaces
- Ritu- Capacitor Potential Gradient
- Nancy- combination of capacitors and dielectric
- Nisha- Drijt Velocity and ohm's law
- Nishar- Kirchhoff's law and metre bridge, wheatstone bridge
- Sahil -Potentiometer
- Love- Combination of cells
- Ravi- Ohm's law,Combination of resistore/wheatstone bridge
- Aryan K- Biot Savrat's Law
- Chirag- Ampere circuital Law
- Vijay-Motional Emf and Ac generator
- Shivam- Resonance in series LCR Circuit and series LCR circuit
- Nancy –Refraction through plane surfaces
- Mehak- Refration through lens.
- Harsh S- Optical instrument, microscope and telescope.

Chemistry

- Write about 3 solution which contain 2,3,4 & 5 compounds.
- Do NCERT Question answer of Chpater-2 and 3 in Final Note Book.
- Try to make a cell in which you can convert chemical changes into electrical energy.
- Explain about at least 3 endo and 3 exo thermic process which you observe during your summer vacation.
- Give details about last 3 Noble prize in chemistry.

- Explain why we use nitrogen gas in our car's tyres.
- Give your opinion, if you are in any hill station and driving your car. Standard tyre pressure is 32 PSI, then what will you prefer-pressure should be exact 32 or more/less than 32 & why?
- Which chemicals are used to clear pool water?
- What will you do if your diesel car is not getting start at high altitude place (very cold)

Biology

1.Name and explain the role of inner and middle walls of human uterus.
2. Draw a diagrammatic sectional view of the female reproductive system of human and label the parts .
 (a) Where the secondary oocyte develop ? (b) Which help in collection of ovum after ovulation . (c) Mention the hormones and their functions involved in maturation of ovum.
3. Write the specific location and function of the following cells in human males a. Leydig cells b. Sertoli cells c. Primary spermatocytes 3. Schematically represent the process of gametogenesis in females. What is the significance of epididymis in male fertility?
4. Explain the following: a. Acrosomal reaction b. Accessory glands in females c. Sperm lysins d. Decapacitation factors e. Extra-embryonic membranes.
5.Distinguish between gametogenesis and embryogenesis.

6. Sunita'sbhabhiisnotallowedtoenter thekitchenduringthedaysofher menstrual cycle. Sunita's mother thinksthatshe isimpure and dirty and the food prepared by her is also unhygienic. Give your opinion about such traditional belief.
7. Monika is a sexworker.Youare aNGOworker.Youare given the responsibility to educate the sexworker aboutsexually transmitted diseases. Specify any twoways ofprevention from such diseases.
8. NeeruandNarimhaveathreeyearolddaughter.Duringher second pregnancyshewants to go for sex determination test andifneeded medical termination of pregnancy.Do you think her decision is right? Justify your answer.

Worksheet -1

Topics are:
e. Sexually transmitted infections
f. Mitosis and Meiosis
g. Biotechnology and genetic engineering in perspective of human Reproduction and diseases

CHAPTER 2: SEXUAL REPRODUCTION IN FLOWERING PLANTS
1. (a) Discuss the development of endosperm in coconut.
(b) What are tassels of corn cob?
(c) Mention one similarity between autogamy and geitonogamy.
2. What is apomixis? Explain any two ways by which apomictic seeds develop.
3. What is agamopermy? How is it different from parthenocarpy and parthenogenesis?
4. Draw a neat, labelled diagram of an anatropous ovule.
5. (a) Explain the development of embryo in dicots.
 (b) Why do most zygotes in angiosperms develop only after a certain amount of endosperm is formed?

CHAPTER 3: HUMAN REPRODUCTION
1. Describe how the changing levels of FSH, LH and progesterone during menstrual cycle induce changes in the ovary and the uterus in human females?
2. Write the specific location and function of the following cells in human males
a. Leydig cells
b. Sertoli cells
c. Primary spermatocytes
3. Schematically represent the process of gametogenesis in females. What is the significance of epididymis in male fertility?
1. Explain the following:
a. Acrosomal reaction
b. Accessory glands in females
c. Sperm lysins
d. Decapacitation factors
e. Extra-embryonic membranes

CHAPTER 4: REPRODUCTIVE HEALTH
1. A) How do oral pills help in birth control? Name the common pills used (11/2)
   B) Which of these has been produced by CDRI and how is it more effective? (11/2)
2. Give a brief account of various intra-uterine devices. How do they function? What are their advantages?
3. a. What are the various reasons that call for MTPs? (1)
 b. What are the risk factors associated with MTP? (2)
1. Describe the various techniques employed under ART.

Accountancy

Question: What do you mean by Partnership Deed? Explain the Rules of Partnership
         When whenever enters into Partnership firm? Evaluate Goodwill.
         Topic:-
- Prepare a reevaluation Account of Jindal steel company year(2009-10)
- Prepare a opening balance sheet of Jindal steel company year (2009-10)
- Prepare a format of Revaluation Account and capital account.
- Solve Question 35 to 65 of Admission of Partner Chapater-3

Assignment:

1. Jatin and Gupta were partners sharing in the ratio of 3:2. Their balance sheet as at 31 March 2022 as follows:

Liabilities	Rs	Assets	Rs
Creditors	49000	Cash	14800
Bill Payable	3000	Debtor 20500	
Bank overall	17000	Less- Provision-300	
Reserve	15000	for bad debts	20200
Jain's capital	70,000		
Gupta's capital	60,000	stock	44000
		Plant	40000
		Building	75000
		Motor vehicles	20000
	2,14,000		**2,14,000**

They agreed to admit Mishra for ¼ the share form 01-04-22 subject to the following cases.
a) Mishra to bring in capital equal to ¼ of the total capital of Jatin and Gupta after all adjustment including the good will.
b) Building is undervalued by 25% and stock is overvalued by 10%.
c) Provision for Bad debts on debtor to be raised 1000.
d) A Provision for mode for 14800 for outstanding legal charges.
e) Mishra's share of goodwill/premium for calculated at Rs 10000 which is brought by him in cash.

Prepare reevaluation account, partners capital account and balance sheet of the new firm of Mishra admission.

1. Case study question:
On 1 September 2020 twenty student of Modern college started their partnership firm in the name of 'Be safe' for selling sanitizers on digital mode. Since they were good friends of each other, they were not leaving explicit agreement in the place. All of them have agreed to invest Rs 15000 each as capital. The books were closed on 31 March 2021, on which date the following information was provided by the firm:

Particulars	Amount
Sale of sanitizers	2000
Cost of goods sold	50000
Total remuneration to partners	2000 per month
Rent to partners	1000 per month
Manager commission	5000
Closing stock as on March 31,2021	9000
6 % fixed deposits (31-03-2021)	2000

Questions:1 Calculate the amount of profit to be transferred to profit and loss appropriation account:
(a) Profit Rs 58,000   (b) Profit Rs 34,000
(c) Profit Rs 57,200   (d) profit Rs 33,200

Questons:2 on 31 March 2021, Remuneration to Partners will be provides to the partners of 'Be safe' but only out of
(a) Profit for the accounting year   (b) Reserve
(c) Accumulated profit   (d) Goodwill

Question 3: On 1 December 2020 one of the partner of the firm introduced additional capital of Rs 30,0000 and also advanced a loan of Rs. 40,000 to the firm. Calculate the amount of interest that partner will receive for the current accounting period.
(a) Rs 4200   (b) Rs 1400   (c) Rs 1575   (d) Rs 800

Question: 4 P and Q are Partners in a firm sharing profit and loss in the ratio of 2:3. Their fixed capital as at 1 April 2021 were Rs 6,00,000 and 8,00,000 respectively. As pr partnership deed both partner are to get monthly salary of Rs. 25000 each and

interest on capital @ 8% P.A. They are charged interest on drawing @ 10 % P.A drawing the year ended 31 March 2022 were: P Rs 10,000 per month and Q Rs. 120,000 during the year. Firm incurred a loss Rs 1,00,000 during the year before above adjustment. Pass journal entries and prepare an account showing the distribution of profit/loss.

Business Studies

Roll No- 1 to 4. Make two assignments from Chapter-2 on the topic 14 Principle of Management,chapter-4 type of plan in planning
Roll No- 4 to 7- Make two assignment from chapter-3 on the topic Factor affecting of Business Environment and chapter-4(Planning Process)
Special Note:- All student must do PYQs from the year 2012 to 2019.

Economics

(Section-A)

Q.1 Discuss the following briefly
   a) Operation food
   b) Co-operative marketing
   c) Labour intensive process

Q.2 Explain the following as a measure to improve agriculture marketing.
   a) Regulated market
   b) Minimum support price
   c) Standardization and Grading
Q.3 Name the key initiatives required for infrastructural development in rural areas.
Q.4 Why are women employed in low paid work?
Q.5 Compare the employment conditions providing in the organized and unorganized sectors.

(Section-B)
Q.1 What is TANWA?
Q.2 Define actualization.
Q.3 Define job less growth.
Q.4 Why do we differentiate between economic activity and production activity.
Q.5 How are the activities in the economy classified on the basis of employment conditions.

(Section-C)

Q.1 Explain the various self-employment and large generation programmers initiated by the government to solve the problem of unemployment.
Q.2 Define the adoption of a villages.
   🔸 Make an assignment on Disinvestment.

Geography

   🔸 . Prepare a project on type of agriculture
      a) The total length of the project report should not be more than 10-12 written pages of A4 size sheet .
      b) The project report should be hand written and credit will be awarded to original drawings.
      c) The project report should be developed and presented in this order-
   🔸 Revise PT-I syllabus.
   Prepare 2 charts on :
   🔸 Distinguish between Kharif and Rabi crops.
   🔸 India population state wise.

Pol Science

1. Make a chart of political parties national as well as regional which came into Existence since 1952 (any one party)
   - The chart could hold the following columns ideology, electoral result, popular support and famous policies.
   - Which parties are popular till date, where and why?
2. Make a report on the latest projects introduced by our prime minister and their relevance in India's development.
3. Make a table on recent international summits in detail. (Date, Place, member, countries, objective, agenda, outcomes)
4. Give recent examples to show the influence of Us hegemony on developing countries.
5. Through a poster show the positive and negative impact of globalization on India.

Home Science

Activity:

- बाज़ार के 5 Processed food item का survey करो तथा उनकी Dackaging और label information भी दो |
- बच्चों में टीकाकरण का चार्ट बनाओ |
- Practical file बनाओ |

Physical Education

1. Write down 100 MCQS from the chapter Children and women in sports, test and Measurement in sports. Write 50 MCQS from each chapter.
2. Chapter- Children and women in sports, test and Measurement in sports Read and Learn.
3. Prepare a chart by Measuring the ground of Kho-Kho and volleyball.

Music

1. रागो का समय सिद्धान्त चित्र सहित लिखें व अपने विचार दे।
2. तानपुरे का चित्र उसके अंगो सहित लिखें।
3. कोई दो देशभक्ति गाने लिखे व याद करें।
4. किसी भी एक आपके पसन्दीदा गायक का चित्र बनाऐ या कम्पयूटर से निकलवाऐं।

Note:- Do all the work in your Fair Note books and Submit complete work to your Class Incharge in school on 4th July 2022.

Happy Summer Vacations

☺ ☺ ☺