

ESTD:- 2013

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R.M PUBLIC SCHOOL

(CBSE AFFILIATION NO. 730072)

SESSION: 2024-25

SUMMER HOLIDAYS HOMEWORK

CLASS 12th SCIENCE



Dear Students

*Learning is the beginning of wealth. Learning is the beginning of health.
Learning is the beginning of spirituality.*

Searching and learning is where the miracle process all begins.

.....Jim Rohn

The summer vacation, this time would not be ice creams, candies and cool pool, but time can be utilized in honing skills and interests. It is easy to bloom, then to be bud, but you are responsible young members of nation and its our duty to follow rules. Here are some holiday activities designed for creative utilization of time. Give a flight to your imagination and spend time purposely. This summer vacation the holiday homework so designed by the mentors of the school is a medium for you all to achieve the motto of "Fun and Learn".

REMEMBER

- Neatness and hygiene are part of your routine.
- Holidays homework is a part of subject enrichment and will be assessed on the basis of creativity and efforts of the students.
- Its a perfect time to enhance your speaking skills and vocabulary by conversing in English with your family and siblings.
- Reading is essential for those who seek to rise above the ordinary. Spend your quality time with reading purposeful books.
- A beautiful handwriting makes a good impression. Practice one page of English and Hindi writing daily.
- Schedule your time for activities so that there is no piling up for the last moment.
- Holiday homework should be your authentic creative work.

SUBMIT HOLIDAYS HOMEWORK ACCORDING TO THE GIVEN TIME AND SLOT SCHEDULE

DATE	SLOTS	ROLL NO.	TIMING
15-7-2024	FIRST	1 TO 15	9:00 am to 10:00 am
	SECOND	16 onwards	10:00 am to 11:00 am

NOTE: The marks of holiday homework will be included in your Term-1 exam. Kindly deposit the holiday homework on above mentioned slots, later it will not be accepted by the class teacher.

HAPPY SUMMER VACATIONS

Vacations are the best time to relax and enjoy. Summer vacation is the reason behind fun in the Sun, beach and shadow of the umbrella.

- This is to inform all the students that the summer vacation is going to begin from **1ST June, 2024** and will end on **16th July, 2024**. The school will reopen on **18th July, 2024 i.e. Thursday**.
- We hope you have a fantastic vacation with your family.

SR. NO	SUBJECT	ASSIGNMENT	ACTIVITY/PROJECT WORK	MATERIAL REQUIRED
1.	Biology	<p>Q1: A tall pea plant bearing violet flowers is crossed with a tall pea plant bearing white flowers. In the F1 progeny, there were tall pea plants with white flowers, tall pea plants with violet flowers, dwarf pea plants with violet flowers and dwarf pea plant with white flowers work out the cross to show how is it possible.</p> <p>Q2: A haemophilic man marries a woman whose mother was normal but her father was haemophilic. What percentage of children would be there to be haemophilic? Explain with necessary crossing.</p> <p>Q3. What functions do each of the following play in biotechnology.</p> <p>(a) Gel electrophoresis</p> <p>(b) Restriction Endonuclease</p> <p>(c) pBR322 a Selectable marker.</p>	<p>Q1.(A) Investigatory project on latest update in the field of human genome project or use of DNA fingerprinting..(Roll no 1,2,3,2,20)</p> <p>(B): Investigatory project on any therapeutic drug currently used world wide.(Roll no 4, 30,5,29,21)</p> <p>(C). Investigatory project on different types of Cancer.(Roll no.6, 27,8,22)</p> <p>(D): Investigatory project on steps taken by the government of India for conserving biodiversity of country.(Roll no.18, 26,19,24 le)</p> <p>Note: Kindly prepare a PPT (Power point presentation) and presentation for five minutes on the allotted topic and bring your PPT in the Pen drive post summer vacation.</p>	<p>Practical file or project file covered it properly, colourful sheets/assignment sheets, sparkle pens, printout of relevant pictures, flow chart/articles etc</p>

2.	Physics	<p>1. Solve NCERT exercise questions of current electricity.</p> <p>2. Read chapter current electricity thoroughly and frame 20 MCQ's by your own.</p> <p>Q3: Revise Electric field and charges, Electric potential and capacitance.(Use of graph paper and charts)</p>	<p>1. Activities work</p> <p>a) Build a electric circuit : Objective:- circuit construction to understand electrical principles like ohm's law, series and parallel circuits and circuit analysis.</p> <p>b) Study of magnetic fields. Explore how magnetic fields interact with each other and with electric currents. Objective:- Investigate the properties of magnetic fields using magnets and magnetic materials..</p> <p>2. PROJECT WORK:</p> <p>(a)Solar oven construction: Build a solar oven.</p> <p>(b) Investigate magnetic levitation. Explore the principles behind magnetic levitation and build a simple maglev train or levitating object.</p> <p>(C) Study electromagnetic induction. Create a simple electromagnetic generator.</p> <p>Note: Kindly prepare a PPT (Power point presentation) and presentation for five minutes on the allotted topic and bring your PPT in the Pen drive post summer vacation.</p>	<p>Resistors, capacitors and LEDs etc</p> <p>Magnets and magnetic material</p> <p>Cardboard, Aluminium foil and glass.</p> <p>Different magnets and material to optimize levitation.</p>
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3.	Chemistry	<ol style="list-style-type: none"> 1. Solve any 5 questions of NCERT exercise of unit Electrochemistry 2. Solve any 5 NCERT in text unsolved questions of unit solutions. 3. Solve any 5 questions of NCERT exercise of unit chemical kinetics 4. Solve any 5 in text NCERT unsolved questions of unit chemical kinetics 	<p>Q1 PROJECT FILE</p> <p>-(a)Food adulterants : To detect the adulterants in sugar, chilli powder, black pepper and other food samples.</p> <p>Note: Kindly prepare a PPT (Power point presentation) and presentation for five minutes on the allotted topic and bring your PPT in the Pen drive post summer vacation.</p>	<p>Project file, colourful A4 size sheets(blank on one side and lining on other side, sparkle pens, samples to be attached on the blank side of sheets etc.</p>
4.	Physical Education	<p>Procedure for asanas, benefits & contraindication for any two Asanas for each life style disease.</p>	<p>Fitness test administration</p>	<p>Chart Paper, Colours, Glue Etc</p>

5.	MATHEMATICS	<p>Q1. What are one-one and onto functions? Write at least five examples of</p> <ul style="list-style-type: none">(a) one-one functions(b) onto functions(c) bijective functions(d) neither one-one nor onto functions(e) one-one but not onto(f) onto but not one-one <p>Q2. Write domain and range of all inverse trigonometric functions.</p> <p>Q3. What are invertible matrices? Prove that inverse of square matrix is unique (if it exists). Also show that if A and B are invertible matrices of same order then $(A.B)^{-1} = B^{-1}.A^{-1}$</p> <p>Q4. Define adjoint of matrix? Do at least three questions related to matrix method.</p> <p>Q5. Do at least ten MCQs each from chapters 1,2,3,4,5.</p>		
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6.	Computer Science	<p>Make a Practical file for the following programs with clear outputs.</p> <ul style="list-style-type: none"> ● Determine whether a number is a perfect number, an Armstrong number or a palindrome. ● Input a number and check if the number is a prime or composite number. ● Display the terms of a Fibonacci series. ● Compute the greatest common divisor and least common multiple of two integers. ● Count and display the number of vowels, consonants, uppercase, lowercase characters in string. ● Input a string and determine whether it is a palindrome or not; convert the case of characters in a string. ● Find the largest/smallest number in a list/tuple ● Input a list of numbers and swap elements at the even location with the elements at the odd location. ● Input a list/tuple of elements, search for a given element in the list/tuple. <p>Note: Kindly prepare a PPT (Power point presentation) and presentation for five minutes on the allotted topic and bring your PPT in the Pen drive post summer vacation.</p>	1) Synopsis: Python project using Python file handling/Python-SQL connectivity.	Practical file(cover practical file) ,practical sheets, profile, Index, paste pictures, certificate and bibliography
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7.	ENGLISH	<p>1. CONTENT OF THE PROJECT FILE: The project file should include the following:</p> <ul style="list-style-type: none"> ➤ Cover page, with the title of the project, school details and details of the student (sample will be sent) ➤ Certificate of Completion under the guidance of the teacher (sample will be sent) ➤ Objectives of the topic ➤ Action Plan for the completion of assigned tasks (steps involved in doing the project) ➤ The 800-1000 words essay/report ➤ Student reflections (what new learning experience/outcome you have achieved after completing the project) ➤ If possible, photographs that capture positive learning experience of the students (collages/pics from various online sources) ➤ List of Resources/Bibliography (Last page of the project file) <p>Note: Kindly prepare a presentation for five minutes on the allotted topic.</p>	<p>2. TOPICS: INSTRUCTIONS:</p> <ul style="list-style-type: none"> ✓ Refer to the links of the videos attached with each topic (You can also select different videos available on YouTube, relevant to your topic) ✓ Listen to these podcasts, documentaries, interviews etc. on the given topics ✓ Do a thorough research on the topic assigned ✓ Prepare a report/essay in about 800-1000 words describing the topic/issue/giving your own opinion/suggestions/measures/viewpoints/its impact on people/your learning experience ✓ You can also state the name of various speakers/people (in the given documentaries/video links), quote them and express their viewpoints ✓ The project should be neat, legible, with an emphasis on quality of content, accuracy of information, creative expression, proper sequencing and should be relevant as per your assigned topic ✓ PROJECT TO BE WRITTEN ON A4 SHEET. ✓ No repetition or copying of project work would be accepted. ✓ Please don't share your work with anyone. If the External examiner points out any repetition or copying of the project, the consequences would be severe. ✓ No marks will be awarded for a casual approach of completing the project ✓ There are 12 topics. Topics are distributed Roll-No Wise ✓ Roll no 13 will get topic no 1 and so on... 	
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Given below is a list of some suggestive topics for the project.

1. BIOTERRORISM (BIOWAR & BIO WEAPONS):

Links for reference:

<https://youtu.be/Faftnz8cg7E>

<https://youtu.be/b6NI97v2buc>

https://youtu.be/6Af6b_wyiwl

2. DRUG ABUSE, DRUG TRAFFICKING & ADDICTION:

Links for reference:

<https://youtu.be/pzhD2MyelbY>

<https://youtu.be/b6Dte96WdqM>

<https://youtu.be/lwP9H9qTuUY>

3. CYBER CRIME AND SECURITY:

Links for reference:

<https://youtu.be/AVBlvtEthtc>

<https://youtu.be/DpjoZGOONiQ>

https://youtu.be/1A3sQO_bQ_E

4. PATRIARCHY AND FEMALE SUBJUGATION:

Links for reference:

<https://youtu.be/ROLXAC2PXuU>

<https://youtu.be/MRfDzznfEOU>

<https://youtu.be/H-9fTS5cAiA>

5. MOB LYNCHING:

Links for reference:

<https://dai.ly/x7gq8sz>

https://youtu.be/Jox_CYyitGU

<https://economictimes.indiatimes.com/news/politics-and-nation/government-sets-up-4-member-committee-to-suggest-measures-to-deal-with-moblynching/videshow/65107450.cms>

6. GENERATION GAP:

Links for reference:

<https://youtu.be/IEqX4QhMj3k>

<https://youtu.be/uEd6dhOegn4>

<https://youtu.be/p656FvLHupY>

https://youtu.be/cl4Uv9_7KJE

<https://youtu.be/VibolJvWqiw>

7. SOCIAL NETWORKING PLATFORMS: IS SOCIAL MEDIA AN

EFFECTIVE TOOL FOR QUICK AND CONVENIENT COMMUNICATION, OR

IS IT JUST A SOPHISTICATED MEANS FOR STALKING PEOPLE?

Links for reference:

<https://youtu.be/ABOgsV2XTEk>

<https://www.intelligencesquaredus.org/?jwsourc=cl>

https://www.ted.com/talks/cal_newport_why_you_should_quit_social_media

8. DO YOU THINK THE SIGHTINGS OF UFOS ARE TRUSTWORTHY? DO

ALIENS REALLY EXIST?

Links for reference:

<https://youtu.be/ZBtMbBPzqHY>

<https://youtu.be/30r45P1JFys>

<https://youtu.be/EVBCLAaflaw>

9. SHOULD ANIMAL TESTING BE BANNED?

Links for reference:

<https://youtu.be/G393z8s8nFY>

<https://youtu.be/FfRQDgu6pX4>

<https://youtu.be/Mo25wUKNySg>

10. CLIMATE CHANGE IS THE GREATEST THREAT FACING HUMANITY

TODAY:

Links for reference:

<https://youtu.be/vy3gMVGwjuc>

11. VIOLENT VIDEO GAMES SHOULD BE BANNED:

Links for reference:

https://youtu.be/uaf_Xjz6Mxs

<https://youtu.be/vxUeDliBYMY>

<https://youtu.be/gv1SsYeKXXE>

12. THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE WILL HELP

HUMANITY:

Links for reference:

<https://youtu.be/wTbrk0suwbg>

<https://youtu.be/-orTIDWqBN0>

<https://youtu.be/ZJixNvx9BAC>

Regards

Vice Principal