GREENWAY MODERN SCHOOL

SUMMER VACATION HOMEWORK (SESSION-2017-18)

CLASS X

MATHS:- Do the given assignments.

Subject Enrichment :- (Project Work)

1. Contribution of famous mathematicians in the field of mathematics (Roll no 1 – 30)
2. Experiments on Probability (Roll no 31 – Onwards)

ENGLISH:- All the tasks will be graded. All the summer vacation work is to be done in a file and the file would be kept for future use.

1. Book review:- Read the novel, "diary of a young girl" and prepare –
   1.A book review
   2. Character sketches of the character in the book
   3. Information about World War II and Nazi propaganda. (Pictures can be used liberally).
2. Prepare biosketches for any two of the given poets /authors.
   1. Shakespeare 3.Samuel Taylor Coleridge
   3. Satyajit-Ray 4.D.H Lawrence.
3. Work book Lesson 1 to 3

DRAWING:- Madhubani painting on Canvas . Size (20" X 15")

SCIENCE:- i) Complete assignment of 5 lessons taught in class.

ii) Read and Revise all the lessons completed in class.
iii) Complete 6 practicals in your files (3 Physics and 3 Chemistry)
iv) Practice numerical of electricity
v) Revise syllabus of Pre-mid term exam.

SOCIAL SCIENCE:- A→ [Work on any two Projects]

1. Make a projecton "Demand for constilutional Amendment for reservation for women in legislatives" in the following heads:-
   a) Public debates b) Reasons in favour c) Reaction by political parties in India.
2. Make a project on life history and working of any one revolutionary of India.
3. Global warming – an imminent threat.
4. Learn all the chapters done in the class for Pre-mid term examination.

HINDI:- (i) कोई एक कविता या कहानी लिखें जिसमे आपके सपनों का वर्णन हो, जो आप जीवन में करना चाहते हैं।

(ii) किसी भी प्रमुख राज्य के दर्शनिक पवित्र स्थलों की सूची बनाकर लिखो। किसी भी यात्रा पर जाने से पूर्व आप क्या-क्या तैयारियाँ करेंगे। एक फोल्डर बनाइए

(iii) साइकिल प्रशिक्षण केंद्र के प्रचार हेतु आकर्षक विज्ञापन तैयार करे।

(iv) अपने सबसे अच्छे मित्र की फोटो चिपकाकर अपनी भावनाओं को व्यक्त करते हुए सुंदर व आर्कषक ग्रीटिंग कार्ड बनाइए।

(v) पिंजर बंद और आकाश मे उन्मुक्त उड़ान भरने वाले दो पक्षियों के प्रति होने वाले वार्तालाप को संवाद शैली में लिखते हुए स्पष्ट करे की स्वतंत्रता का जीवन में क्या महत्व है।

(vi) कराए गए सभी अध्यायों का पुनरावृत्ति अभ्यास करें। व्याकरण से संबंधित समास, मुहावरे शुद्ध, अशुद्ध का अभ्यास करें।

(vii) बाढ़ कटन से आई प्राकृतिक आपदा से ग्रस्त लोगो को राहत सामग्री की आवश्यकता है, इसकी सूचना अपने क्षेत्र के निवासियों तक पहुँचाए।

GREEN WAY Modern School

HOLIDAY HOMEWORK

MATHEMATICS

CLASS-X

Assignment-Polynomials

1. A quadratic polynomial,whose zeroes are -3 and 4,is A)$x^2 - x + 12$ B)$x^2 + x + 12$ C) $\frac{x^2}{2} - \frac{x}{2} - 6$ D) $2x^2 + 2x - 24$
2. If the zeroes of the quadratic polynomial $x^2 + (a+1)x + b$ *are* 2 and -3, then A)a=-7,b=-1 B) a=5, b=-1 C) a=2,b=-6 D) a=0, b=-6

3. The number of polynomials having zeroes as -2 and 5 is A) 1 B) 2 C) 3 D) more than 3.

4.Given that one of the zeroes of the cubic polynomial $ax^3 + bx^2 + cx + d$ is zero, the product Of the other two zeroes is A) $-\frac{c}{a}$ B) $\frac{c}{a}$ C) 0 D) $-\frac{d}{a}$

5. If one of the zeroes of the cubic polynomial $x^3 + ax^2 + bx + c$ is -1, then the product of the Other two zeroes is A) b-a+1 B) b-a-1 C) a-b+1 D) a-b-1

6. The zeroes of the quadratic polynomial $x^2 + 99x + 127$are A) both positive B) both Negative C) one positive and one negative D) both equal

7. The zeroes of the quadratic polynomial$x^2 + kx + k$, k is non-zero, A) cannot be both Both positive B) cannot both be negative C) are always unequal D) are always equal

8. If the zeroes of the quadratic polynomial $ax^2 + bx + c, c \neq 0$ are equal ,then A) c and a have opposite signs B) c and b have opposite signs C) c and a have same signs D) c and b have the same sign

9. If one of the zeroes of a quadratic polynomial of the form $x^2 + ax + b$ is the negative of the Other ,then it A) has no linear term and the constant term is negative B) has no linear term And the constant term is positive C) can have a linear term but the constant term is Negative D) can have a linear term but the constant term is positive

10. Can x-1 be the remainder on the division of a polynomial p(x) by 2x+3 ? Justify your answer.

11. Is the following statement true or false ? Justify your answer.If the zeroes of a quadratic Polynomial $ax^2 + bx + c$ are both negative, then a,b and c all have the same sign.

12. Can $x^2 - 1$ be the quotient on the division of $x^6 + 2x^3 + x - 1$ by a polynomial in x of Degree 5 ? Answer and justify.

13. What will be the quotient and the remainderon division of $ax^2 + bx + c$ *by* $px^3 + qx^2 + rx + s, p \neq 0$? Answer and justify.

14.If on division of a polynomial p(x) by a polynomial g(x), the quotient is zero, what is the Relation between degrees of p(x) and g(x) ? Answer and justify.y

CLASS-X

Assignment-Real Numbers

1. For some integer m, every even integer is of the form
   A) m B) m+1 C) 2m D) 2m+1
2. $n^2 - 1$ is divisible by 8, if n is A) an integer B) a natural number C) an odd integer D) an even integer.
3. If the HCF of 65 and 117 is expressible in the form 65m-117, then the value of m is
   A) 4 B) 2 C) 1 D) 3
4. If two positive integers a and b are written as a=x^3y^2 and b=x^1y^3 ; x and y are prime numbers ,then HCF(a,b) is A) xy B) xy^3 C) x^3y^3 D) x^2y^2.
5. If two positive integers p and q can be expressed as p=ab^2 and q = a^3b; a and b being prime numbers , then LCM(p,q) is A) ab B) a^2b^2 C) a^3b^2 D) a^3b^3
6. The decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after :
   A) One decimal places B) two decimal places C) three decimal places D) four decimal places
7. Write whether every positive integer can be of the form 4q+2, where q is an integer.Justify your answer
8. The product of three consecutive positive integers is divisible by 6-is this statement true or false ? Justify your answer.
9. A positive integer is of the form 3q+1 , q being a natural number . Can you write its square in any form other than 3m+1 ,i.e.,3m or 3m+2 for some integer m.Justify your answer.
10. The numbers 525 and 3000 are both divisible by only 3,5,15,25 and 75. What is HCF(525,3000)? Justify your answer.
11. Without actually performing the division,find if $\frac{987}{10500}$ will have terminating or non-terminating decimal expansion(repeating). Give reasons for your answer.
12. Show that the cube of any positive integer is of the form 4m, 4m+1 or 4m+3,for some integer m.
13. If n is an odd integer, then show that $n^2 - 1$, is divisible by 8.
14. Prove that if x and y are both odd positive integer , then $x^2 + y^2$ is even but not divisible by 4.
15. Using Euclid's Division Algorithm, find the largest number that divides 1251,9377 and 15628 leaving remainders 1,2 and 3, respectively.
16. On a morning walk, three persons step off together and their steps measure 40cm, 42cm and 45cm, respectively.What is the minimum distance each should walk so that each can cover the same distance in complete steps ?
17. Write the denominator of the rational number $\frac{257}{5000}$ in the form $2^m \times 5^n$, where m and n are non-negative integers.Hence write its decimal expansion, without actual division.
18. Using E uclid's Division Algorithm, find which of the following pairs of numbers are co-prime: A) 231,396 B) 847,2160
19. Prove that $\sqrt{2} + \sqrt{3}$ is irrational.
20. Show that the cube of a positive integer of the form 6q+r,q is an integer and r=0,1,2,3,4,5 is also of the form 6m+r.
21. Prove that one and only one out of n, n+2 and n+4 is divisible by 3, where n is any positive integer.

Subject Enrichment :- (Project Work)

1. Contribution of Famous Mathematicians in the field of Mathematics

Roll no. (1–30)

2. Experiments on Probability

Roll no. (30 – onwards)

GREENWAY MODERN SCHOOL
DILSHAD GARDEN, DELHI
SCIENCE ASSIGNMENT CLASS : 7

7 Magnetic Effects of Electric Current

1. A circular coil in the plane of the paper carries current in clockwise direction. The direction of the magnetic field is
   (*a*) upward
   (*b*) downward
   (*c*) out of the plane
   (*d*) into the plane
2. Force on a current carrying conductor is maximum when the length *l* and the magnetic field B are at an angle of
   (*a*) 0°
   (*b*) 45°
   (*c*) 90°
   (*d*) 60°
3. Transformer is used to
   (*a*) step-up
   (*b*) step-down
   (*c*) Both (*a*) and (*b*)
   (*d*) Neither (*a*) nor (*b*)
4. An electron beam is moving horizontally from south to north in the vertical component of earth's magnetic field directed downward. In which direction will the beam deflected ? State the rule also.
5. How do you magnetise a material ? Name some materials used in the manufacture of permanent magnets. Where do we use them ?
6. What will happen to a conductor placed in a magnetic field, when current is allowed to pass through it ?
7. A coil of copper wire is connected to a galvanometer. What would happen if a bar magnet is :
   (*a*) pushed into the coil with its north pole entering first
   (*b*) pulled out of the bar magnet
   (*c*) held stationary inside the coil ?
8. (*i*) What type of electric connection, we use in India ?
   (*ii*) Why do we use earth-wire ?
   (*iii*) What is overloading ?
   (*iv*) How do we avoid short-ciruiting ?
9. Explain the principle of electromagnetic induction. With the help of an experiment explain how
   (*i*) a moving magnet and
   (*ii*) a current carrying coil
   can produce current in a coil in the neighbourhood.
10. What is a solenoid ? Draw field lines of the magnetic field through and around a current carrying solenoid.
11. Draw a diagram to show the magnetic field lines around a bar magnet. List any two properties of magnetic field lines.

A. Very short answer type questions (1 mark each)

1. What is meant by magnetic effect of electric current? Who discovered it?
2. Draw the magnetic lines of force outside a solenoid when current is passed through it.
3. Define electromagnetic induction.
4. State Lenz's law.
5. What does the Fleming's right hand rule predict?
6. How does alternating current differ from direct current?
7. How does a DC generator differ from an AC generator?
8. Why do we use electricity lines of two different ratings in our houses?
9. How does a fuse protect an electric circuit?
10. How is the strength of the magnetic field at a point near a wire related to the strength of the electric current flowing in the wire?
11. Sketch magnetic field lines around a current-carrying straight conductor.

B. Short answer type questions (2 marks each)

12. Describe the Maxwell's right hand grip rule.
13. Why does a current-carrying conductor experience a force when placed in a magnetic field?
14. Name a device which converts electrical energy into mechanical energy. State the principle on which it is based.
15. How can you predict the direction of the force experienced by a current-carrying straight conductor placed in a magnetic field.
16. What is an electromagnet? Draw a circuit diagram to show how a soft iron piece can be transformed into an electromagnet.
17. How does an electromagnet differ from a bar magnet? Mention one use of electromagnets.
18. Name the factors on which depends the strength of the current induced in a coil when placed in a changing magnetic field.
19. Why are the household electrical appliances connected in parallel?
20. How can it be shown that a magnetic field exists around a wire through which a direct electric current is passing?
21. In what situation do we use Fleming's right-hand rule?
22. Draw the pattern of magnetic field lines of a current-carrying solenoid. What does the pattern of field lines inside the solenoid indicate? Write one application of magnetic field of current-carrying solenoid.
23. A student performs an experiment to study the magnetic effect of current around a current-carrying straight conductor. He reports that
    (a) the direction of deflection of the north pole of a compass needle kept at a given point near the conductor remains unaffected even when the terminals of the battery sending current in the wire are interchanged.
    (b) for a given battery, the degree of deflection of a N-pole decreases when the compass is kept at a point farther away from the conductor.

    Which of the above observations of the student is incorrect and why?

C. Short answer type questions (3 marks each)

24. State Fleming's left-hand rule.
25. State the law which is used for determining the direction of the magnetic lines of force due to a straight conductor carrying current.
26. Why does a current-carrying wire move when placed in a magnetic field?
27. Write down two main hazards associated with the use of electricity.
28. Describe an experiment to explain the action of an electric fuse.

29. Why does a current-carrying conductor kept in a magnetic field experience force? On what factors does the direction of this force depend? Name and state the rule used for determination of direction of this force.

D. Long answer type questions (5 marks each)

30. Name the device which converts mechanical energy into electrical energy. On which principle does it work? Draw its labelled diagram.
31. Explain the principle of working of an electric motor with the help of a diagram.
32. With the help of a labelled diagram explain the working of an electric generator.
33. Name the device which converts electrical energy into mechanical energy. On which principle does it work? Draw its labelled diagram showing its main parts.
34. With the help of a labelled diagram, explain the principle and working of an AC electric generator (or a dynamo).
35. Name the three types of electric power plants used for generating electricity on large scale. How is electricity transmitted and distributed?
36. Explain the meaning of the word 'electromagnetic' and 'induction' in the term electromagnetic induction. On what factors does the value of induced current produced in a circuit depend? Name and state the rule used for the determination of direction of the induced current. State one practical application of this phenomenon in everyday life.