Scholars Global School
Enlightening • Empowering • Enterprising

SUMMER HOLIDAY HOMEOWRK –COMMERCE
Class XI Session (2025-26)

English

Instructions: Attempt all questions to the best of your ability. Pay attention to grammar, spelling, and presentation. This assignment is designed to help you revise key concepts and express your creativity.
Have a wonderful and productive holiday!
Total Marks: 25

Section A: Grammar (10 Marks)

1. Fill in the blanks with the most appropriate determiners: (2 Marks)
a) Have you got _____ new books to read? (some / any / many) b) He is _____ honest man. (a / an / the) c) She spent _____ money she had saved. (little / few / all) d) _____ of the students were present in the class. (Each / Every / Both)

2. Complete the following sentences using the correct tense of the verbs given in brackets: (2 Marks)
a) My train _____ (arrive) at 6 pm yesterday. b) They _____ (play) football in the park right now. c) By the time we reach the station, the bus _____ (leave). d) She _____ (live) in this city for ten years.

3. Fill in the blanks with the most suitable modals: (2 Marks)
a) You _____ (should / must / might) see a doctor if you have a fever. b) I _____ (can / could / may) swim across the river when I was younger. c) It _____ (will / would / shall) probably rain this evening. d) Students _____ (need / dare / ought to) submit their assignments on time.

4. Rewrite the following sentences correcting the subject-verb concord: (2 Marks)
a) The quality of the apples were not good. b) Each boy and girl have received a prize. c) Neither the cat nor the dogs was happy. d) Physics are a difficult subject for many students.

5. Change the following sentences into Reported Speech: (2 Marks)
a) He said to me, "What are you doing?" b) The teacher said, "Close the door, please."

Section B: Writing Skills (15 Marks)

6. Letter Writing (8 Marks)
Write a letter to the Editor of a local newspaper expressing your concern about the increasing noise pollution in your city and suggesting possible measures to control it.

7. Poster Making (7 Marks)
Design a creative and informative poster on one of the following topics:
a) **Save Water, Save Life**
b) **Say No to Single-Use Plastic**
c) **Importance of Reading Books**
Your poster should include:

- A catchy title/slogan
- Relevant images or drawings
- A clear message
- Use of different fonts and colors to make it visually appealing.

Business Studies

Venture-1

Prepare a PowerPoint presentation on any START-UP of India.
Your presentation should include:

i) Details of the Businessman/Entrepreneur
ii) Form of Business Organization
iii) Evolution of the business
iv) The rise of Business Empire.
v) The growth and expansion of the empire.
vi) The future prospects of the business.

OR

Venture - 2:

Study any company's profile and find information about the following and prepare a Prospectus:

i) Ownership
ii) Capital
iii) Pricing policy
iv) Physical distribution
v) Promotional Activities
vi) Working procedure
vii) Pictures of the business (includes owner and products)

Important Note:

1. **PowerPoint Submission:**
   Share your PowerPoint presentation with your subject teacher via their TEAMS ID.
2. **Project/ Homework Presentation:**
   Prepare for a **5–6 minute presentation** to be delivered during the practical class after the holidays.
   Assessment Criteria (6 Marks):
   - **Confidence:** 2 marks
   - **Subject Clarity:** 2 marks
   - **Presentation Skills:** 2 marks
3. **Unit Test Preparation:**
   Revise all relevant chapters for the upcoming **Unit Test**.

Accountancy

1. Prepare PPT on the following topics allotted as per your Roll No.-

- **1-8** Basic Accounting Terms
- **9-16** Accounting Process
- **17-25** Accounting Principles and Concepts

2. Revise all chapters covered in class

- Chapter1- Meaning and objectives of Accounting
- Chapter 2- Basic Accounting terms
- Chapter 3- Accounting principles

3. Imagine any business unit, chose its name, paste the following in fair notebook:

- one voucher
- One bill
- Images of resources to start a new venture

Economics

1. Micro Economics studies the behaviour of an _____ unit.
a) Individual Economic b) As a whole c) Both A and B d) None

2. What are the causes of Economic problems?
a) Unlimited human wants b)Scarcity of economic resources
c) Alternative uses of resources d) All of the above

3. Abbreviate MOC _____
a) Marginal object character b) Marginal opportunity cost
c) Both A and B d) None

4. Abbreviate PPF _____
a) Production Possibility Frontier b) Possibility Production Frontier
c) A is False d) B is False

5. What are the reasons for the Rightward shift of PPC?
a) Migration b) War c) Skill development programme d) None

6. When the marginal utility is equal to zero, what will the total utility be?
A) Maximum B) Laws of return C) Minimum D) None of the above

7. Which of the following is the basis of diminishing marginal utility?
A) Law of demand B) Laws of return C) Law of supply D) None of the above

8. A consumer is in equilibrium when the marginal utilities are _____ .

A) Increasing B) Equal C) Minimum D) Highest

9. Why is a consumer's spending restricted?

A) Due to the utility maximization B) Due to the budget constraint

C) Due to the demand curve D) Due to the marginal utility

10. When MU is positive, what happens to TU?

A) It decreases. B) It becomes the highest. C) It remains constant. D) It increases.

11.What will be the MU when TU is maximum?

12. Which direction does the indifference curve slope?

13.What is a consumer surplus?

14. What is the point of satiety?

15. **Calculate the missing figures:**

Units	1	2	3	4	5
TU	16	------	----------	---------	40
MU	--------	12	8	6	--------

16. **Write the formula of the following terms:**

a. Marginal Utility = _____

b. Total Utility = _____

c. Budget Line =_____

d. Consumer Equilibrium in case of one commodity =_____

e. Consumer Equilibrium in case of two commodity =_____

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HOLIDAY HOMEWORK
CLASS XI- MATHS

Trigonometric Functions

1. If $\sin\theta=\frac{3}{5},\tan\varphi=\frac{1}{2},\frac{\pi}{2}<\theta<\pi<\varphi<\frac{3\pi}{2}$ then find the value of $8\tan\theta-\sqrt{5}\sec\varphi$.
   $\left(A=\frac{-7}{2}\right)$
2. If $\sin A=\frac{3}{5},0<A<\frac{\pi}{2},\cos B=\frac{-12}{13},\pi<B<\frac{3\pi}{2}$, find the value of
   $\sin(A-B),\cos(A+B),\tan(A-B)$
3. If A lies in the fourth quadrant and $\cos A=\frac{5}{13}$, find the value of $\frac{13\sin A+5\sec A}{5\tan A+6\cos ecA}$
4. If $\cos\theta=\frac{-1}{2}$ and $\pi<\theta<\frac{3\pi}{2}$, find the value of $4\tan^2\theta-3\cos^2\theta$
5. If $\sin A=\frac{3}{5},0<A<\frac{\pi}{2}$ and $\cos B=\frac{-12}{13},\pi<B<\frac{3\pi}{2}$ then find the following:
   (i) $\sin(A-B)$ (ii) $\cos(A+B)$ (iii) $\tan(A-B)\left(A=\frac{-16}{65},\frac{-33}{65},\frac{16}{63}\right)$
6. Find the value of $\tan(A+B)$, given that $\cot A=\frac{1}{2},\sec B=\frac{-5}{3},\pi<A<\frac{3\pi}{2},\frac{\pi}{2}<B<\pi$
7. Prove the following:
   a) $\cos570^\circ\sin510^\circ+\sin(-330^\circ)\cos(-390^\circ)=0$
   b) $\frac{\cos(2\pi+\theta)\cos ec(2\pi+\theta)\tan\left(\frac{\pi}{2}+\theta\right)}{\sec\left(\frac{\pi}{2}+\theta\right)\cos(\theta)\cot(\pi+\theta)}=1$
   c) $\frac{\cos(90^\circ+\theta)\sec(-\theta)\tan(180^\circ-\theta)}{\sec(360^\circ-\theta)\sin(180^\circ+\theta)\cot(90^\circ-\theta)}=-1$
   d) $\sin^2\frac{\pi}{4}+\sin^2\frac{3\pi}{4}+\sin^2\frac{5\pi}{4}+\sin^2\frac{7\pi}{4}=2$
   e) $\sin600^\circ\tan(-690^\circ)+\sec840^\circ\cot(-945^\circ)=\frac{3}{2}$
   f) $\cos306^\circ+\cos234^\circ+\cos162^\circ+\cos18^\circ=0$
   g) $\sin^254^\circ-\sin^272^\circ=\sin^218^\circ-\sin^236^\circ$
8. In any quadrilateral ABCD, prove that: $\sin(A+B)+\sin(C+D)=0$
9. Prove that:
   a) $\tan315^\circ\cot(-405^\circ)+\cot495^\circ\tan(-585^\circ)=2$
   b) $\cos510^\circ\cos330^\circ+\sin390^\circ\cos120^\circ=-1$
   c) $\sin\frac{8\pi}{3}\cos\frac{23\pi}{6}+\cos\frac{13\pi}{3}\sin\frac{35\pi}{6}=\frac{1}{2}$
   d) $\cos570^\circ\sin510^\circ+\sin(-330^\circ)\cos(-390^\circ)=0$

e) $3\sin\frac{\pi}{6}\sec\frac{\pi}{3}-4\sin\frac{5\pi}{6}\cot\frac{\pi}{4}=1$

f) $\dfrac{\cos(2\pi+\theta)\cos ec(4\pi+\theta)\tan\left(\frac{\pi}{2}+\theta\right)}{\sec\left(\frac{\pi}{2}+\theta\right)\cos(-\theta)\cot(\pi+\theta)}=1$

10. In any cyclic quadrilateral ABCD, prove:
    a) $\tan A+\tan B+\tan C+\tan D=0$
    b) $\cos(180°-A)+\cos(180°+B)+\cos(180°+C)-\sin(90°+D)=0$
11. Find x from the following equation: $\cos ec(90°+\theta)+x\cos\theta\cot(90°+\theta)=\sin(90°+\theta)$
12. If A,B,C,D are angles of a cyclic quadrilateral, prove that:
    $\cos A+\cos B+\cos C+\cos D=0$
13. Find x from the following equation:
    a) $\cos ec(270°+A)=\cos(180°+A)+x\sin(90°+A)\cot(270°+A)$
    b) $x\cot(90°+A)+\tan(90°+A)\sin A+\cos ec(90°+A)=0$
14. Prove that:
    a) $\tan 8\theta-\tan 6\theta-\tan 2\theta=\tan 8\theta\tan 6\theta\tan 2\theta$
    b) $\tan 70°=\tan 20°+2\tan 50°$
    c) $\dfrac{\cos 11°+\sin 11°}{\cos 11°-\sin 11°}=\tan 56°$
    d) $\dfrac{\cos 15°-\sin 15°}{\cos 15°+\sin 15°}=\dfrac{1}{\sqrt{3}}$
15. If $A+B=\frac{\pi}{4}$, prove that $(1+\tan A)(1+\tan B)=2$
16. Evaluate : a) $\cos(-1125°)$ b) $\tan\left(\frac{11\pi}{6}\right)$ c) $\cos ec(-1200°)$
17. Prove that :
    a) $\dfrac{\sin(A+B)+\sin(A-B)}{\cos(A+B)+\cos(A-B)}=\tan A$
    b) $\dfrac{\sin(A-B)}{\cos A\cos B}+\dfrac{\sin(B-C)}{\cos B\cos C}+\dfrac{\sin(C-A)}{\cos C\cos A}=0$
    c) $\tan 13\theta-\tan 9\theta-\tan 4\theta=\tan 13\theta\tan 9\theta\tan 4\theta$
    d) $\tan 15°+\tan 30°+\tan 15°\tan 30°=1$
    e) $\tan 36°+\tan 9°+\tan 36°\tan 9°=1$
    f) $\dfrac{\cos 8°-\sin 8°}{\cos 8°+\sin 8°}=\tan 37°$
    g) $\dfrac{\cos 9°+\sin 9°}{\cos 9°-\sin 9°}=\tan 54°$
    h) $\tan 50°=\tan 40°+2\tan 10°$
    i) $\tan\left(\frac{\pi}{4}+A\right)\tan\left(\frac{\pi}{4}-A\right)=1$

j) $(1+\tan A)(1+\tan B)=2\tan A$, *where* A - B $=\frac{\pi}{4}$

k) $\tan 75°-\tan 30°-\tan 75°\tan 30°=1$

18. If $\tan x+\tan\left(x+\frac{\pi}{3}\right)+\tan\left(x+\frac{2\pi}{3}\right)=3$, the prove that : $\frac{3\tan x-\tan^3 x}{1-3\tan^2 x}=1$

19. Prove that:

a) $\frac{1+\sin 2\theta+\cos 2\theta}{1+\sin 2\theta-\cos 2\theta}=\cot\theta$

b) $\frac{\cos 2\theta}{1+\sin 2\theta}=\tan\left(\frac{\pi}{4}-\theta\right)$

c) $\frac{\cot\theta+\cos ec\theta-1}{\cot\theta-\cos ec\theta+1}=\cot\frac{\theta}{2}$

d) If $\tan\frac{x}{2}=\frac{n}{m}$, find the value of $m\cos x+n\sin x$

20. Show that: $\sqrt{2+\sqrt{2+\sqrt{2+2\cos 8\theta}}}=2\cos\theta$

21. Prove that :

a) $\frac{\sin 2\theta}{1-\cos 2\theta}=\cot\theta$

b) $\frac{1+\sin\theta-\cos\theta}{1+\sin\theta+\cos\theta}=\tan\frac{\theta}{2}$

c) $\sqrt{\frac{1-\cos 2\theta}{1+\cos 2\theta}}=\tan\theta$

d) $\sqrt{2+\sqrt{2+2\cos 4\theta}}=2\cos\theta$

e) $\frac{\sin 2\theta+\sin\theta}{1+\cos\theta+\cos 2\theta}=\tan\theta$

f) $\cos 4\theta=1-8\sin^2\theta+8\sin^4\theta$

22. If $\sin x=\frac{\sqrt{5}}{3}$ and $\frac{\pi}{2}<x<\pi$, find the value of $\sin\frac{x}{2},\cos\frac{x}{2},\tan\frac{x}{2}$.

23. Prove that : $\cos^4\frac{\pi}{8}+\cos^4\frac{3\pi}{8}+\cos^4\frac{5\pi}{8}+\cos^4\frac{7\pi}{8}=\frac{3}{2}$

24. Prove that: $\left(1+\cos\frac{\pi}{8}\right)\left(1+\cos\frac{3\pi}{8}\right)\left(1+\cos\frac{5\pi}{8}\right)\left(1+\cos\frac{7\pi}{8}\right)=\frac{1}{8}$

25. Prove that : $\sin^4\frac{\pi}{8}+\sin^4\frac{3\pi}{8}+\sin^4\frac{5\pi}{8}+\sin^4\frac{7\pi}{8}=\frac{3}{2}$

26. Prove that: $\cos 5A=16\cos^5 A-20\cos^3 A+5\cos A$

27. Prove that :

a) $\frac{\sin 5x+\sin 3x}{\cos 5x+\cos 3x}=\tan 4x$

b) $\dfrac{\sin x-\sin y}{\cos x+\cos y}=\tan\left(\dfrac{x-y}{2}\right)$

c) $\dfrac{\cos x-\cos 2x+\cos 3x}{\sin x-\sin 2x+\sin 3x}=\cot 2x$

d) $\dfrac{(\cos x-\cos 3x)(\sin 8x+\sin 2x)}{(\sin 5x-\sin x)(\cos 4x-\cos 6x)}=1$

e) $\dfrac{\sin A+2\sin 3A+\sin 5A}{\sin 3A+2\sin 5A+\sin 7A}=\dfrac{\sin 3A}{\sin 5A}$

f) $\dfrac{\sin 3A+\sin 5A+\sin 7A+\sin 9A}{\cos 3A+\cos 5A+\cos 7A+\cos 9A}=\tan 6A$

g) $\dfrac{\sin(x+y)-2\sin x+\sin(x-y)}{\cos(x+y)-2\cos x+\cos(x-y)}=\tan x$

h) $\cos 40^\circ+\cos 50^\circ+\cos 70^\circ+\cos 80^\circ=\cos 10^\circ+\cos 20^\circ$

i) $\cos\theta-\cos 3\theta+\cos 5\theta-\cos 7\theta=4\sin\theta\sin 4\theta\cos 2\theta$

j) $\sin\theta+\sin\left(\dfrac{2\pi}{3}+\theta\right)+\sin\left(\dfrac{4\pi}{3}+\theta\right)=0$

k) *If* $\dfrac{\sin x}{a}=\dfrac{\cos x}{b}$, prove that $a\sin 2x+b\cos 2x=b$

28. Prove that: $\dfrac{\cos 8A\cos 5A-\cos 12A\cos 9A}{\sin 8A\cos 5A+\cos 12A\sin 9A}=\tan 4A$

29. Prove that: $\sin 10^\circ\sin 30^\circ\sin 50^\circ\sin 70^\circ=\dfrac{1}{16}$

30. Prove that: $\cos 10^\circ\cos 30^\circ\cos 50^\circ\cos 70^\circ=\dfrac{3}{16}$

31. Prove the following :

a) $\dfrac{\sin 3A\cos 2A-\sin 6A\cos A}{\sin A\sin 2A-\cos 2A\cos 3A}=\dfrac{\sin 3A}{\cos A}$

b) $\dfrac{\sin 3A\cos 4A-\sin A\cos 2A}{\sin 4A\sin A+\cos 6A\cos A}=\tan 2A$

c) $\dfrac{\sin 2A\sin 3A-\sin A\sin 4A+\sin 5A\sin 2A}{\cos 4A\cos 5A-\cos 3A\cos 6A+\cos 5A\cos 2A}=\tan 4A\tan 3A$

d) $\cos 20^\circ\cos 40^\circ\cos 60^\circ\cos 80^\circ=\dfrac{1}{16}$

e) $\sin 10^\circ\sin 50^\circ\sin 60^\circ\sin 70^\circ=\dfrac{\sqrt{3}}{16}$

f) $\tan 20^\circ\tan 30^\circ\tan 40^\circ\tan 80^\circ=1$

(iii) $\cot\theta + \operatorname{cosec}\theta = \sqrt{3}$

(iv) $\sin 2x = \cos 3x$

(v) $4\cos x - 3\sec x = \tan x$

(vi) $\tan x + \tan 2x + \tan x \tan 2x = 1$

(vii) $\cos x + \cos 3x - 2\cos 2x = 0$

33. Find the general solutions of the following equations :

a) $\cos 3\theta = -\frac{1}{2}$

b) $\tan\left(\frac{2}{3}\theta\right) = \sqrt{3}$

c) $\tan^2\theta + \left(1-\sqrt{3}\right)\tan\theta - \sqrt{3} = 0$

d) $\tan x + \tan 2x + \tan 3x = \tan x \tan 2x \tan 3x$

e) $2\sin^2 x + \sqrt{3}\cos x + 1 = 0$

f) $\sin x + \sin 2x + \sin 3x = 0$

g) $\cos x + \cos 3x - \cos 2x = 0$

h) $\sqrt{3}\cos x + \sin x = 1$

i) $\operatorname{cosec} x = 1 + \cot x$

Ch: COMPLEX NUMBERS

1. If a, b, c are real numbers such that $a \le b, c > 0$, then:

   (i) $ac \le bc$ (ii) ac <bc (iii)ac >bc (iv) $ac \ge bc$. (Choose the correct option)

2. Solve for x: $3x + 9 \ge -x + 19$
3. Solve: $3x - 4 < 7$,when $x \in Z$
4. Solve the following system of inequalities: $2x - 3 < 7, 2x > -4$
5. How many litres of a 30% acid solution must be added to 500 litres of a 12% solution so that acid content in the resulting mixture will be more than 14% but less than 20%.
6. Solve: $6x + 2 < 4x + 7$, when (i) x is a natural number (ii) x is an integer (iii) x is a real number and represent solution for each part on the number line.
7. Find all pairs of consecutive even positive integers, both of which are larger than 7, such that their sum is less than 30.
8. The water acidity in a pool is considered normal when the average pH reading of three daily measurements is between 7.2 and 7.8. If the first two pH readings are 7.48 and 7.85, find the range of pH value for the third reading that will result in the acidity level being normal.
9. Solve the following linear inequalities and show the graph of solution in each case on the number line :($x \in R$)

   (i) $\frac{2x+3}{4} - 3 < \frac{x-4}{3} - 2$ (ii) $|3x - 7| > 4$ (iii) $\frac{5x+8}{4-x} < 2$

   (iv) $\left|\frac{3x-4}{2}\right| \le \frac{5}{12}$ (v) $3x - 2 > x + \frac{4-x}{3} > 3$

10. Solve the following system of inequalities:

    (i) $5x - 7 < 3(x + 3)$, $1 - \frac{3x}{2} \ge x - 4$

    (ii) $\frac{5x}{4} + \frac{3x}{8} > \frac{39}{8}$, $\frac{2x-1}{12} - \frac{x-11}{3} < \frac{3x+1}{4}$

11. Solve the following system of inequalities graphically:

    (i) $3x + 4y \ge 12,\ 4x + 7y \le 28,\ y \ge 1,\ x \ge 0,\ y \ge 0$

    (ii) $x + 2y \le 10,\ x + y \ge 1,\ x - y \le 0,\ x \ge 0,\ y \ge 0$

    (iii) $x + 2y \le 40, 3x + y \ge 30, 4x + 3y > 60, x \ge 0, y \ge 0$

Ch: Linear Inequations

1. Find the value of x and y $(x, y \in R)$ if : $2y + (3x - y)i = 5 - 2i$
2. Express $3i^3 + 6i^{16} - 7i^{29} + 4i^{27}$ in the form $x + iy$ where $x, y \in R$.
3. Evaluate : $\left(i^{41} + \frac{1}{i^{257}}\right)^9$
4. If $Z_1 = 1 - i, Z_2 = -2 + 4i,$ find $\text{Im}\left(\frac{Z_1 Z_2}{\overline{Z_1}}\right)$.
5. Find the conjugate of the complex number: $\frac{1}{2 - 3i}$
6. Write the following complex numbers in the polar form:
   (i) $-2 - 2i$ (ii) $\frac{1}{1+i}$
7. Find the complex conjugate of $\frac{(8 - 3i)(6 - i)}{2 - 2i}$.
8. Find the multiplicative inverse of $\left(\frac{3 + 4i}{4 - 5i}\right)$
9. Find the modulus and argument of $\frac{1 + 2i}{1 - 3i}$
10. If $(a + ib)^2 = (x + iy),$ prove that $(a^2 + b^2)^2 = (x^2 + y^2)$
11. Find x and y if $\frac{(1+i)x - 2i}{3+i} + \frac{(2-3i)y + i}{3-i} = i$
12. For what values of x and y are the numbers $-3 + ix^2y$ and $x^2 + y + 4i$ complex conjugates? (x, y are real numbers.)
13. Solve the following quadratic equations:

(i) $6x^2 - 17ix - 12 = 0$

(ii) $3x^2 + 7ix + 6 = 0$

$(iii) x^2 - (7 - i)x + 18 - i = 0$

$(iv) x^2 - (3\sqrt{2} - 2i)x - 6\sqrt{2}i = 0$

$(v) 2x^2 - (3 + 7ix)x + 9i - 3 = 0$

14. Find the square root of: $(i) -8 - 6i, (ii) -5 + 12i, (iii) -i$

Ch: Permutations

1. How many even numbers of 3 digits can be formed with the digits 1,2,3,4,6 if no digit is repeated?
2. How many numbers of six digits can be formed from the digits 0,1,3,5,7 and 9, which are divisible by 10 and no digit is repeated?
3. Find the number of different signals that can be generated by arranging at least 2 flags in order (one below the other) on a vertical staff, if five different flags are available.
4. How many numbers greater than 1000 and less than 4000 can be formed with the digits 0,1,2,3,4 if (a) repetition of digits is allowed (b) repetition of digits is not allowed?
5. How many odd numbers greater than 80000 can be formed using the digits 2,3,4,5 and 8 if each digit is used only once in a number?
6. Three dice are rolled. Find the number of possible outcomes in which at least one die shows a 5.
7. Evaluate: (a) $12!-10!$ (b) $\dfrac{9!}{5!\times 4!}$
8. Which of the following is true? (a) $(2+3)! = 2!+3!$ (b) $(2\times 3)! = 2!\times 3!$
9. Find x, if : $\dfrac{1}{9!}+\dfrac{1}{10!}=\dfrac{x}{11!}$
10. If ${}^{11}P_r = {}^{12}P_{r-1}$, find r.
11. Find r, if $5\ {}^{4}P_r = 6\ {}^{5}P_{r-1}$
12. If ${}^{2n-1}P_n : {}^{2n+1}P_{n-1} = 22:7$, find n.
13. How many words can be made from the letters of the word MONDAY assuming that no letter is repeated if (a) 4 letters are used at a time (b) All letters are used at a time? (c) All letters are used but the first letter is a vowel?
14. The letters of the word TRIANGLE are arranged in such a way that vowel and consonants remain together. How many different arrangements will be obtained?
15. Four different mathematics books, six different physics books and two different chemistry books are to be arranged on a shelf. How many different arrangements are possible if (a) the book in a particular subject must all stand together (b) only the mathematics books must stand together?
16. In how many ways can 5 children be arranged in a row such that two boys Akash and Samir are (a) always together (b) never together?
17. How many different 8 letter words can be formed out of the letters of the word DAUGHTER so that (a) The word starts with D and ends with R (b) Position of H remains unchanged (c) Relative position of vowels and consonants remain unaltered (d) No two vowels are together (e) All vowels never occur together?
18. How many words can be formed with the letters of the word EQUATION? In how many of them (a) vowels occur together (b) the vowels never occur together (c) the vowels and the consonants are together?
19. In how many ways can 5 boys and 3 girls be seated in a row so that no two girls are together?