ANAND PUBLIC SCHOOL

"Summer vacation is the best time for families to slow down, reconnect, and spend meaningful 'US' time together."

Dear Parents,

Summer Vacation offers a refreshing break for children - a chance to relax, explore, and rejuvenate. More than just a pause from school work, it's a precious time to nurture bonds, foster creativity and plant the seeds of values and memories that last a lifetime.

Children may not remember every toy they receive, but they will always carry the warmth of stories told, meals shared and moments spent with their loved ones. Let's use this opportunity to guide, support and connect with them in ways that matter most.

Below are few suggestions:-

1. All homework must be written clearly and neatly.
2. Assignments should be completed independently by the students. Parental support is encouraged, but the effort should reflect the child's own capabilities.
3. Try conversing in English to help them be comfortable with the language.
4. Ensure that all work is completed within the given time frame.
5. Holidays homework will be assessed and carry weight in evaluations across all subjects.
6. Children are likely to follow their routine if we give them Positive instructions and lots of praise/appreciation for what they do right.
7. Science week is celebrated in the month of July to enhance the scientific attitude.
8. Encourage daily reading. Cultivating a reading habit is key to lifelong learning.

DATESHEET FOR P.T. - 2 **DATESHEET FOR P.T. - 3**

DATE	IX	XI	X	XII
JULY 08, 2025	English	Phy. Edu.	I.T.	Phy. Edu.
JULY 11, 2025	Hindi	Acc./Phy./Pol. Sci.	Hindi	Acc./Phy./Pol. Sci.
JULY 15, 2025	Science	English	Science	English
JULY 18, 2025	S.St.	B.Std./Chem./Hindi	S.St.	B.Std./Chem./Hindi
JULY 22, 2025	Maths	Eco./Bio.	Maths	Eco./Bio.
JULY 25, 2025	I.T.	Maths	English	Maths
JULY 26, 2025	.....	Music	.....	Music

School will reopen on July 02, 2025 (Wednesday)

Holidays Homework will be uploaded on E-Care and our website.

Wishing you all a joyful, relaxing and enriching Summer Break

Enjoy, Enrich, Empower!

HOLIDAYS HOMEWORK FOR CLASS - X

SESSION: (2025-26)

English

A. File work : Autography Analysis

- Study the autography of Nelson Mandela. Write about the prominent features of the autobiography and lessons learned from it.
- About Robert Frost you could explore his life, themes and poetic style. You can also research his background. Compare and contrast Frost's theme and style with other poets of his time. Develop a written analysis of his work, focusing on a specific poem.

B. Assignment Work:

- Solve unseen passages from 1 to 10 from English workbook.
- Fill and revise worksheets of 1 to 5 poems from English practice book.

C. Revise syllabus of P. T. 3

Hindi

1) श्री कृष्ण के सभी अवतारों के नाम लिखो (चित्र सहित) तथा किसी एकअवतार का वर्णन करो।

2) एकाकी और नाटक में क्या अंतर है? कुछ एकाकी और नाटकों की सूची तैयार करो।

3) आपका एटीएम कार्ड खो गया है। इसकी जानकारी देते हुए तथा किसी भी प्रकार के ऑनलाइन भुगतान और नगद निकासी पर रोक लगाने हेतु बैंक प्रबंधक को ई- मेल लिखो।

P.T-3 पाठ्यक्रम

कविता -	1) पर्वत प्रदेश में पावस	2) तोप	
पा -	1) तांतारा वामीरो	2) तीसरी कसम	
व्याकरण -	1) समास	2) मुहावरे	3) विज्ञापन

I.T

Prepare a project file on this Topics

1) Self- regulation

2) Sustainable development

3) Types of network

4) Network topology

5) Data transfer on internet

6) Web browser relationship

7) Types of communication

8) Components of desktop

9) Data types

Revise Lesson - 1, 2, 3, 4, 6, 7

P.T-3 Syllabus - Ls. 4 to 7

Social Science

- **Learn the Syllabus of P.T-3**
  - Lesson 1 Geo:- Resource and development
  - Lesson 2 His:- Nationalism in India
  - Lesson 2 Pol. Sci:- Federalism
  - Lesson 3 Eco:- Money and Credit
- Make a project Report on topic 'Consumer Rights'.
- Paste the Map related with
  - Geo:- Ls - 1, 3
  - His:- Ls - 2

- Art Integrated activity- Haryana

1. Area, Location
2. Map of state
3. Flora and Fauna
4. Food
5. Culture
6. Population
7. Political Structure
8. Heritage
9. Conclusion

Biology

- **Complete your practical file**
- **Science Chapter :-**
  - Physics- Ch. 9, 10
  - Chemistry- Ch. 12
  - Bio- Ch. 5, 6, 15

Q1. What happens at synapse between two neuron?

Q2. What is tropic movement? Explain with example.

Q3 Draw labelled structure of neuron and explain its function

Q4 Mention function of each

a) thyroxine b) growth hormone c) testosterone d) adrenaline

Q5) Name various plant hormones give their role

Q6) What are reflex actions? Give two examples. Explain reflex Arc.

Q7) Nervous and Hormonal system together perform function of control and coordination in human life justify this statement.

Q8) Which hormone is responsible for changes noticed in female at puberty?

Q9) Blood sugar level rises due to deficiency of which hormone

Q10) Iodine is necessary for synthesis of which hormone

Q11) Name endocrine gland associated with brain

Q12) Which gland secret digestive enzymes as well as hormones

Q13) Name endocrine gland associated with kidney.

Q14) Which endocrine gland is present in males but not in females?

Q15) What is phototropism? Describe an activity demonstrate phototropism.

Q16) What are nastic and curvature movements? Give an example of each?

Q17) Where is hypothalamus located? Name the secretions released by neurosecretary cells of hypothalamus. Why is hypothalamic - pituary system important?

Q18) Name the plant hormones responsible for the following.

A) Promotion of dormancy in seeds and buds.

B) Promotion of cell division.

C) Promotion of yellowing and senescence of leaves.

D) Elongation of cells.

Q19) Write 'a' and 'b' in the given flowchart of neuron through which information travels as an electrical impulse.

[Dendrite] → ['a'] → ['b'] → [End point of neuron]

Physics

1) An object is placed 25 cm in front of a concave lens of focal length 25 cm. find the location and nature of image.

2) A pen 3cm in length is kept 30cm away from a convex lens of focal length 20cm. calculate the size and the nature of the image formed. Also, draw the ray diagram.
3) A 5 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 20 cm. The distance of the object from lens is 30 cm. determine the position, nature and size of image formed.
4) A convergent lens of power 8 D is combined with a divergent lens of power -10 D. calculate (a) power of combination (b) focal length of combination.
5) An object 7 cm high is kept at a distance of 15 cm from a convex lens of focal length 20 cm. Find the position, size and magnification of the image. Also, find the power of lens.
6) What is the nature of the image formed by a lens, if it produces positive magnification?
7) Two lenses of focal length 15 cm and 30 cm are given. What will be the power of the combination of lenses.
8) A convex lens of focal length 20 cm can produce a magnified virtual as well as real image. Is this a correct statement? If yes where shall the object be placed in each case for obtaining these images.
9) Which lens would you prefer to use while reading small letters from a dictionary?
10) A ray of light passing through which part of the lens goes undeviated?
11) What is scattering of light? Why does the cleat sky appear blue?
12) Draw a labelled diagram to show

(a) dispersion of a beam of white light (b) formation of a rainbow.

13) A doctor has prescribed a corrective lens of power -1.2 D to a person suffering from which defect of vision.
14) A myopic person having far point 80 cm uses spectacles of power -1 D. how far can he see?
15) How does the size of particles and wavelength of light affect the scattering?
16) A person cannot see the object beyond 5 cm distinctly. State the focal length of lens required to correct this defect of vision.
17) What is the importance of accommodation in human eye? Write the range of normal human eye.
18) Sun is visible two minutes before actual sunrise and two minutes after sunset. Give reason.
19) Discuss about tyndall effect and how does it take place?
20) When light rays enter the eye, most of the refraction occurs at the

(a) crystalline lens (b) outer surface of the cornea
(c) iris (d) pupil

Chemistry

Chapter 1 : Chemical Reactions and Equations

Topic 1.1 : Chemical Reactions and Equations

Very Short Answer Type Questions [1 Mark]

Q.1. Complete the reaction :

$Fe_2O_3 + Al \longrightarrow$

Q.2. What happens chemically when quicklime is added to water?

Q.3. Name the products formed when zinc granules are treated with dilute sulphuric acid.

Q.4. Which one is a chemical change – fermentation of fruit juice or diluting fruit juice?

Q.5. What change in colour is observed when white silver chloride is left exposed to sunlight? What type of chemical reaction is this?

Q.6. Balance the given chemical equation:

$Al(s) + CuCl_2(aq) \longrightarrow AlCl_3(aq) + Cu(s)$

Q.7. Balance the following chemical equation.

$NaOH + H_2SO_4 \longrightarrow Na_2SO_4 + H_2O$

Q.8. Balance the chemical equation :

$MnO_2 + HCl\ (aq) \longrightarrow MnCl_2\ (aq) + 2H_2O\ (l) + Cl_2\ (g)$

Q.9. What do you observe when a matchstick flame is brought near a tube containing hydrogen gas?

Short Answer Type Questions – I [2 Marks]

Q.1. Distinguish between an exothermic and an endothermic reaction. Amongst the following reactions, identify the exothermic reaction and the endothermic reaction.

(i) Heating coal in air to form carbon dioxide.

(ii) Heating limestone in a lime kiln to form quicklime.

Q.2. When the powder of a common metal is heated in an open china dish, its colour turns black. However, when hydrogen is passed over the hot black substance so formed, it regains its original colour. Based on the above information answer the following questions:

(i) What type of chemical reaction takes place in each of the two given steps?

(ii) Name the metal initially taken in the powder form. Write balanced chemical equations for both reactions.

Q.3. Write balanced equations for the reaction of :

(i) Iron with steam (ii) Calcium with water

Q.4. Crystals of copper sulphate are heated in a test tube for some time. What is the colour of copper sulphate crystals

(i) before heating, and (ii) after heating?

Q.5. State any two observations in an activity which may suggest that a chemical reaction has taken place. Give examples to support your answer.

Q.6. Write fully balanced chemical equation and state the physical condition and physical state of the reactants in the following reaction.

Long Answer Type Questions [5 Marks]

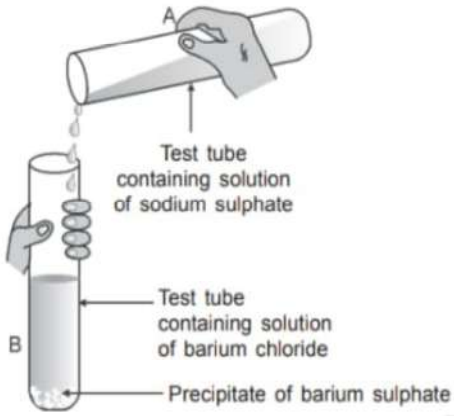
Q.1. Observe the given figure and answer the following questions.

(i) Write the complete balanced reaction for the above.

(ii) Type of reaction involved.

(iii) Is there any precipitate formed?

(iv) If any precipitate formed, write the colour of the precipitate.



Q.2. (a) Can we stir silver nitrate solution with a copper spoon? Why or why not? Support your answer with reason.

(b) Why a brown coating is formed on the iron rod when iron rod is kept dipped in copper sulphate solution for sometime? What change will be observed in the colour of the solution?

Q.3. (a) Balance the following chemical equations :

(i) $NaOH + H_2SO_4 \longrightarrow Na_2SO_4 + H_2O$

(ii) $PbO + C \longrightarrow Pb + CO_2$

(iii) $Fe_2O_3 + Al \longrightarrow Al_2O_3 + Fe + Heat$

(b) Write the balanced chemical equations for the following reactions.

(i) Barium chloride + Potassium sulphate $\longrightarrow$ Barium sulphate + Potassium Chloride

(ii) Zinc metal + silver nitrate $\longrightarrow$ zinc nitrate + silver metal

Q.4. (a) Define a balanced chemical equation. Why should an equation be balanced?

(b) Write the balanced chemical equation for the following reason :

(i) Phosphorus burns in presence of chlorine to form phosphorus pentachloride.

(ii) Burning of natural gas

(iii) The process of respiration.

Aluminium metal dissolves in aqueous copper sulphate solution with the formation of aluminium sulphate and copper.

(i) What do you understand by the following terms used in a chemical equation : (a) reactants (b) products?

(ii) What does symbol (⟶) represent in a chemical equation?

Q.7. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.

Q.8. Grapes hanging on the plant do not ferment but after being plucked from the plant can be fermented. Under what conditions do these grapes ferment? Is it a chemical change?

Ans. The microbes can grow in the plucked grapes under anaerobic conditions. But grapes when attached to the plants, have their own immune system which prevents fermentation of grapes. Yes, fermentation of grapes is a chemical change.

Q.9. Balance the following chemical equations

(a) $Mg + N_2 \longrightarrow Mg_3N_2$ (b) $Al + Cl_2 \longrightarrow AlCl_3$

Short Answer Type Questions – II [3 Marks]

Q.1. Name the products formed in each case when :

(a) hydrochloric acid reacts with caustic soda.

(b) granulated zinc reacts with caustic soda.

(c) carbon dioxide is passed into limewater.

Q.2. Write chemical equations for the reactions taking place when.

(a) Magnesium reacts with dilute HNO_3

(b) Sodium reacts with water

(c) Zinc reacts with dilute hydrochloric acid

Q.3. Complete the following chemical equations :

(i) $C_2H_5OH + O_2 \longrightarrow$ (ii) $C_2H_5OH \xrightarrow[443\ K]{\text{Conc. } H_2SO_4}$

(iii) $CH_3COOH + NaHCO_3 \longrightarrow$

Q.4. Complete the following chemical equations :

(i) $CH_3COOH + Na_2CO_3 \longrightarrow$ (ii) $CH_4 + O_2 \longrightarrow$

(iii) $C_2H_5OH + Na \longrightarrow$

Q.5. (a) Write the essential condition for the following reaction to take place.

$$2AgBr \longrightarrow 2Ag + Br_2$$

Write application of this reaction.

(b) Complete the following chemical equation of a chemical reaction :

$$2FeSO_4 \xrightarrow{\text{Heat}} Fe_2O_3 + ... + ...$$

(c) What happens when water is added to quicklime? Write chemical equations.

Q.6. On adding a drop of barium chloride solution to an aqueous solution of sodium sulphite, a white precipitate is obtained.

(a) Write a balanced chemical equation of the reaction involved.

(b) What other name can be given to this precipitation reaction?

(c) On adding dilute hydrochloric acid to the reaction mixture the white precipitate disappears. Why?

Maths

1. 20-20 Mathematics (Book)
Do MCQ, Very Short Ans. and Case Study
2. Lab manuals:- Do the activities marked in the book.
3. Revise P.T.-3 syllabus Ch. 7, 8, 9
(Do assignment & Revise in a separate Register) (Marks will be allotted for this)

Assignment Ch8

EXERCISE 8.3

PRACTICE QUESTIONS

Very Short Answer Type Questions ——— 1 Mark

1. Simplify $(\sin^2\theta + \cos^2\theta + \cot^2\theta)$.
2. In ΔABC, $\angle C = 90°$, then find the value of $\cos^2 A + \cos^2 B$.
3. If $x = 3\sec^2\theta - 1$ and $y = 3\tan^2\theta - 2$, where θ is an acute angle, then find the value of $(x - y)$.
4. Find the value of $(6\tan^2\theta - 6\sec^2\theta)$.
5. If $\cot\theta = 2$, then find the value of $(\cot^2\theta + \operatorname{cosec}^2\theta)$.
6. Find the value of $\sin^2\theta + \dfrac{1}{1+\tan^2\theta}$. [2020]
7. Express sin A in terms of cot A.
8. If $x \operatorname{cosec}\theta = 1$ and $\cos\theta = y$, then find the value of $x^2 + y^2$.

Short Answer Type Questions – I ——— 2 Marks

1. Simplify: $\left(\dfrac{1}{\cos\theta} + \dfrac{\sin\theta}{\cos\theta}\right)\left(\dfrac{1-\sin\theta}{\cos\theta}\right)$
2. Prove that $(\tan\theta + 2)(2\tan\theta + 1) = 5\tan\theta + 2\sec^2\theta$.
3. Prove that $\sin^2 A\cos^2 B - \cos^2 A\sin^2 B = \sin^2 A - \sin^2 B$.
4. Prove that $\left(\tan\theta + \dfrac{1}{\tan\theta}\right)^2 = \sec^2\theta + \operatorname{cosec}^2\theta$
5. Show that $\dfrac{1-\tan^2\theta}{1+\tan^2\theta} = \cos^2\theta - \sin^2\theta$
6. Prove that $(\sec^2\theta - 1)(1 - \operatorname{cosec}^2\theta) = -1$.
7. Prove that $(\operatorname{cosec}\theta - \sin\theta)(\sec\theta - \cos\theta) = \cos\theta\sin\theta$.

Short Answer Type Questions – II ——— 3 Marks

1. Prove that $\dfrac{\tan\theta - \cot\theta}{\sin\theta\cos\theta} = \tan^2\theta - \cot^2\theta$.
2. Prove that $2\sec^2\theta - \sec^4\theta - 2\operatorname{cosec}^2\theta + \operatorname{cosec}^4\theta = \cot^4\theta - \tan^4\theta$.
3. Prove that $\dfrac{\tan\theta}{1-\cot\theta} + \dfrac{\cot\theta}{1-\tan\theta} = 1 + \tan\theta + \cot\theta$.
4. Prove that $\dfrac{1-\sin\theta}{1+\sin\theta} = (\sec\theta - \tan\theta)^2$.
5. Prove that $\dfrac{\cos^3\theta + \sin^3\theta}{\cos\theta + \sin\theta} + \dfrac{\cos^3\theta - \sin^3\theta}{\cos\theta - \sin\theta} = 2$.
6. Prove that $\dfrac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = \left(\dfrac{1+\sin\theta}{\cos\theta}\right)^2$.
7. Prove that $\dfrac{1+\cos A}{\sin A} + \dfrac{\sin A}{1+\cos A} = 2\operatorname{cosec} A$.

[NCERT]

8. Prove that $\cot^4 A - 1 = \operatorname{cosec}^4 A - 2\operatorname{cosec}^2 A$.
9. Show that $\dfrac{1}{\sec\theta - \tan\theta} - \dfrac{1}{\cos\theta} = \dfrac{1}{\cos\theta} - \dfrac{1}{\sec\theta + \tan}$
10. Show that $\dfrac{1+\cos\theta - \sin^2\theta}{\sin\theta(1+\cos\theta)} = \cot\theta$.
11. Prove that $\cot\theta - \tan\theta = \dfrac{2\cos^2\theta - 1}{\sin\theta\cdot\cos\theta}$ [SQP20]
12. Prove the following that: [SQP20]

$$\frac{\tan^3\theta}{1+\tan^2\theta} + \frac{\cot^3\theta}{1+\cot^2\theta} = \sec\theta\,\operatorname{cosec}\theta - \sin\theta\cos$$

13. Prove that:

$$\frac{\cos^4 x - \sin^4 x}{1 - \tan x} = \frac{(\cos x + 1)}{\sec x\,\operatorname{cosec} x}$$ [PQ20

Long Answer Type Questions ——— 4–5 Ma

1. Prove that $\dfrac{\sin A}{\sec A + \tan A - 1} + \dfrac{\cos A}{\operatorname{cosec} A + \cot A - 1}$
2. Prove that

$$\frac{2}{\cos^2\theta} - \frac{1}{\cos^4\theta} - \frac{2}{\sin^2\theta} + \frac{1}{\sin^4\theta} = \cot^4\theta - \tan^4\theta.$$

3. Prove that $\sin A(1 + \tan A) + \cos A(1 + \cot A) = \sec A + \operatorname{cosec} A$. [2010, 11, 13; 3M, SQP 2
4. If $4\sin\theta = 3$, find the value of x if

$$\sqrt{\frac{\operatorname{cosec}^2\theta - \cot^2\theta}{\sec^2\theta - 1}} + 2\cot\theta = \frac{\sqrt{7}}{x} + \cos\theta.$$

5. Prove that $\dfrac{\operatorname{cosec} A}{\operatorname{cosec} A - 1} + \dfrac{\operatorname{cosec} A}{\operatorname{cosec} A + 1} = 2\sec^2 A$
6. Prove that

$$\frac{\sin A + \cos A}{\sin A - \cos A} + \frac{\sin A - \cos A}{\sin A + \cos A} = \frac{2}{\sin^2 A - \cos^2 A}.$$

7. Prove that $(\sec A - \tan A)^2(1 + \sin A) = 1 - \sin$
8. Find the value of $\dfrac{\sin A - \sin B}{\cos A + \cos B} + \dfrac{\cos A - \cos B}{\sin A + \sin B}$.
9. If $0° < \theta < 90°$, prove that

$$\sqrt{\frac{\operatorname{cosec}\theta - 1}{\operatorname{cosec}\theta + 1}} + \sqrt{\frac{\operatorname{cosec}\theta + 1}{\operatorname{cosec}\theta - 1}} = 2\sec\theta.$$

10. (a) $\dfrac{\sin\theta}{\cot\theta + \operatorname{cosec}\theta} = 2 + \dfrac{\sin\theta}{\cot\theta - \operatorname{cosec}\theta}$

(b) $\dfrac{\tan\theta}{1-\cot\theta} + \dfrac{\cot\theta}{1-\tan\theta} = 1 + \sec\theta.\operatorname{cosec}\theta$

ASSIGNMENT Ch 13

SELF ASSESSMENT TEST–13

STATISTICS

Time: 45 min. M.M

1. After an examination, a teacher wants to know the marks obtained by maximum number of the students in class. She requires to calculate _____ of marks.
   (a) median (b) mode (c) mean (d) range

2. Find the sum of lower limits of modal class and median class of the following data.

Class	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 9
Frequency	25	30	16	19	17	13

   (a) 85 (b) 90 (c) 70 (d) 75

3. For the data 2, 9, $x + 6$, $2x + 3$, 5, 10, 5; if the mean is 7, then the value of x is:
   (a) 9 (b) 6 (c) 5 (d) 3

4. If the difference of mode and median of a data is 24, then the difference of its median and mean is:
   (a) 12 (b) 24 (c) 8 (d) 36

5. If the mean of the following frequency distribution is 24, find the value of p:

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 5(
Frequency	3	4	p	3	2

6. In the following data, find the values of p and q. Also, find the median class and modal class.

Class	100 – 200	200 – 300	300 – 400	400 – 500	500 – 600	600 –
Frequency (f)	11	12	10	q	20	1(
Cumulative frequency (cf)	11	p	33	46	66	8(

7. Construct the frequency distribution table for the given data:

Marks obtained	Less than 10	Less than 20	Less than 30	Less than 40	Less than 50	Less th
No. of Students	14	22	37	58	67	7(

8. Using step deviation method, find the mean of the following data:

Class	135 – 140	140 – 145	145 – 150	150 – 155	155 – 160	160 – 165	165 – 170	170
Frequency	4	9	18	28	24	10	5	

Or

The annual profits earned by 60 shops of a shopping complex in a given locality is described in the fo distribution:

Profit (in ₹ in thousand)	10 or more than 10	20 or more than 20	30 or more than 30	40 or more than 40	50 or more than 50	60 or more than 60	70 or tha
No. of shops	60	56	32	28	20	14	

Calculate median profit.

9. If the mode of the following data is 45, find x and y, given $\Sigma fi = 50$.

Class	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70
Frequency	4	8	x	12	10	4	

10. The mean of the following frequency distribution is 62.8 and the sum of all frequencies is 50. Find the frequencies f_1 and f_2.

Class	0–20	20–40	40–60	60–80	80–100	100–120
Frequency	5	f_1	10	f_2	7	8

Assignment ch. 14

SELF ASSESSMENT TEST 14 PROBABILITY

min. M.M.: 25

...o dice are rolled together. The probability of getting ...um of numbers on the two dice as 2, 3 or 5, is: [1]

(a) $\frac{7}{36}$ (b) $\frac{11}{36}$

(c) $\frac{5}{36}$ (d) $\frac{4}{9}$

2. The probability of guessing the correct answer to a certain test question is $\frac{x}{6}$. If the probability of not guessing the correct answer to this question is $\frac{2}{3}$, then the value of x is: [1]

(a) 2 (b) 3

(c) 4 (d) 6

3. A bag contains 24 marbles, some of which are green and others are blue. A marble is drawn at random from the bag. If the probability that it is green is $\frac{2}{3}$, then find the number of the blue marbles in the bag. [2]

4. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a queen. [2]

5. What is the probability that there are 53 Wednesdays in a leap year? [2]

Or

An integer is chosen at random between 1 and 100. Find the probability that it is:

(i) divisible by 8, (ii) not divisible by 8.

6. Three unbiased coins are tossed together. What is the probability of getting [3]

(a) two heads, (b) at least two heads,

(c) at most two heads?

7. Anita, Sita, Gita and Rita are four friends. What is the probability that (in a non-leap year) [3]

(i) All will have same birthday?

(ii) Their birthdays fall in the month of October?

(iii) Their birthdays fall on 10th day of the months?

(iv) Their birthdays fall in January or February?

8. Box A contains 25 slips of which 19 are marked ₹1 and other are marked ₹5 each. Box B contains 50 slips of which 45 are marked ₹1 each and others are marked ₹13 each. Slips of both boxes are poured into a third box and resuffled. A slip is drawn at random. What is the probability that it is marked other than ₹1? [3]

9. A child's game has 8 triangles of which 3 are blue and rest are red, and 10 squares of which 6 are blue and rest are red: One piece is lost at random. Find the probability that is a: [4]

(i) triangle

(ii) square

(iii) square of blue colour

(iv) triangle of red colour

Or

The King, Queen and Jack of clubs are removed from a pack of 52 cards and then the remaining cards are well shuffled. A card is selected from the remaining cards. Find the probability of getting a card

(i) of spade

(ii) of black king

(iii) of club

(ii) of jacks

10. **Spinning wheel game:** Spinning wheel game has been a centre of attraction in a fairground.

Here is a spinning wheel set for raising fund to help needy people in a slum.

A person can spin once by paying ₹ 20 and win the item where pointer indicates after stop of wheel.

Attempt any four questions:

(i) What is the probability to win a packet of Namkin? [1]

(ii) What is the probability to win a cash prize? [1]

(iii) (a) Anand spins the wheel once and wins a fruit drink. What is the probability that he would get mango shake? [2]

Or

(b) Shruti pays ₹ 20 and spins the wheel. What is the probability that she will not spin again?

Co-ordinate Geometry

Assignment (Ch. 7)

AND ALONE MCQs:

ose the correct answer from the given four options:

[NCERT Exemplar]

1. The distance between the point P(2, 3) from the x-axis is
(a) 2 (b) 3 (c) 1 (d) 5

2. The distance between the points A(0, 6) and B(0, –2) is
(a) 6 (b) 8 (c) 4 (d) 2

3. The distance of the point P(–6, 8) from the origin is
(a) 8 (b) $2\sqrt{7}$ (c) 10 (d) 6

4. $\sqrt{2}$ times the distance between (0, 5) and (–5, 0) is
(a) 5 (b) $5\sqrt{2}$ (c) $2\sqrt{5}$ (d) 10

[2020]

5. AOBC is a rectangle whose three vertices are vertices A(0, 3), O(0, 0) and B(5, 0). The length of its diagonal is
(a) 5 (b) 3 (c) $\sqrt{34}$ (d) 4

6. The perimeter of a triangle with vertices (0, 4), (0, 0) and (3, 0) is
(a) 5 (b) 12 (c) 11 (d) $7 + \sqrt{5}$

7. The points (–4, 0), (4, 0), (0, 3) are the vertices of a
(a) right triangle (b) isosceles triangle
(c) equilateral triangle (d) scalene triangle

8. The point which divides the line segment joining the points (8, –9) and (2, 3) in ratio 1 : 2 internally lies in the [SQP2020]
(a) I quadrant (b) II quadrant
(c) III quadrant (d) IV quadrant

9. The equation of the perpendicular bisector of line segment joining points A(4, 5) and B(–2, 3) is [SQP2022]
(a) $2x - y + 7 = 0$ (b) $3x + 2y - 7 = 0$
(c) $3x - y - 7 = 0$ (d) $3x + y - 7 = 0$

10. The fourth vertex D of a parallelogram ABCD whose three vertices are A(–2, 3), B(6, 7) and C(8, 3) is
(a) (0, 1) (b) (0, –1) (c) (–1, 0) (d) (1, 0)

11. If the point P(2, 1) lies on the line segment joining points A(4, 2) and B(8, 4), then
(a) $AP = \frac{1}{3}AB$ (b) $AP = PB$
(c) $PB = \frac{1}{3}AB$ (d) $AP = \frac{1}{2}AB$

12. If $P\left(\frac{m}{3}, 5\right)$ is the mid-point of the line segment joining the points Q(–6, 7) and R(–2, 3), then the value of m is [SQP2020]
(a) –4 (b) –12 (c) 12 (d) –6

13. The perpendicular bisector of the line segment joining the points A(1, 5) and B(4, 6) cuts the y-axis at
(a) (0, 13) (b) (0, –13) (c) (0, 12) (d) (13, 0)

14. The coordinates of the point which is equidistant from the three vertices of the ΔAOB as shown in the Fig. 7.23 is

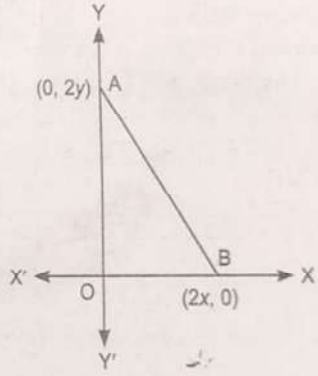


Fig. 7.23

(a) (x, y) (b) (y, x) (c) $\left(\frac{x}{2}, \frac{y}{2}\right)$ (d) $\left(\frac{y}{2}, \frac{x}{2}\right)$

15. A circle drawn with origin as the centre passes through $\left(\frac{13}{2}, 0\right)$. The point which does not lie in the interior of the circle is
(a) $\left(\frac{-3}{4}, 1\right)$ (b) $\left(2, \frac{7}{3}\right)$
(c) $\left(5, \frac{-1}{2}\right)$ (d) $\left(-6, \frac{5}{2}\right)$

16. A line intersects the y-axis and x-axis at the points P and Q, respectively. If (2, –5) is the mid-point of PQ, then the coordinates of P and Q are, respectively
(a) (0, –5) and (2, 0) (b) (0, 10) and (–4, 0)
(c) (0, 4) and (–10, 0) (d) (0, –10) and (4, 0)