

For Achieving Highest Result in S.S.C. Board

PAPER SET 2025



**Entrance Test**

**SCHOLARSHIP** will be given on the merit of entrance test in 11<sup>th</sup> Science.  
Contact on 0281-2588300, 9723102173,  
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• Science & Tech. • Maths (Standard+Basic) • English • Social Science



**The School Of Science (SOS)**

# | Our Goal |

The courses of Gujarat Board (CBSE Board) in 11<sup>th</sup> and 12<sup>th</sup> Science are completed by highly qualified and experienced teachers giving the equal priority and separately preparation GUJ-CET Exams which are given innovatively so that the students can perform the best in NEET-UG and JEE-MAIN exams at national level and build their bright career in medical and engineering.

## | The Organizers |

If you check the records of years in any institute, you will find that,  
"TEACHERS ARE CHANGING IN EACH SCHOOL" BUT...

**"The Only School In Gujarat Where...  
... The Teachers Are The Organizers Of The Institute."**

**Prof. Paneliya** (Physics)  
M.Sc.

**Dr. Ketan Bhalodiya** (Biology)  
M.Sc., B.Ed., M.Phil., Ph.D., C.C.I.T.R.

**Mr. Punit Vyas** (Physics)  
M.Sc., B.Ed.

**Dr. Vishal Narodiya** (Chemistry)  
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**Mr. Dharmesh Patel** (English)  
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**Mr. Shatrughan Sinhar** (Chemistry)  
B.E. Chemical - Nirma

**Mr. Garala** (Maths)  
M.Sc., B.Ed.

**Mr. Vipul Paneliya**

NEET

2024

Leading in NEET... SOS



700

out of 720

Bhatiya Vasu

670

out of 720

Chauhan Parthvi



661

out of 720

Makwana Dhaval

652

out of 720

Vank Raj



GUJ-CET 2024

20

Students have obtained 99 PR or more

Third in Board

Third in Board

Sixth in Board



PR

99.97

MARKS

117.50 / 120

Bhatiya Vasu

EM



PR

99.97

MARKS

118.75 / 120

THAKKAR SHUBHAM

PR

99.94

MARKS

116.25 / 120

Vank Raj



JEE-MAIN 2024

TOPPERS



EM

First in SOS

PR 99.10

PATEL DARSHAN



EM

Second in SOS

PR 99.01

THAKKAR SHUBHAM

Out of 97 students preparing JEE-MAIN

The students Getting 97 PR or more 07 Students

The students Getting 95 PR or more 13 Students

The students Getting 90 PR or more 46 Students

The students Getting 80 PR or more 90 Students



**First in  
SOS**

**Bhatiya Vasu**

PR **99.86**



Sci. Grade A1

Overall Grade A1

**Second in  
SOS**

**Shingala Dhruv**

PR **99.81**



Sci. Grade A1

Overall Grade A1

**Second in  
SOS**

**Chauhan Aditya**

PR **99.81**



Sci. Grade A1

Overall Grade A2



Chauhan Parthvi  
PR **99.77**



Vank Raj  
PR **99.77**



Parekh Maitri  
PR **99.73**



Mansara Harshil  
PR **99.72**



Dalsaniya Harshil  
PR **99.72**



Kalola Tej  
PR **99.62**



Songara Rahul  
PR **99.38**



Sherasiya Yagnik  
PR **99.31**



Parmar Samir  
PR **99.15**



Maradiya Prashil  
PR **99.15**



Sanghani Prince  
PR **99.10**



Jadeja Jaydipsing  
PR **99.10**



OZA PARTH  
PR **99.04**

**RESULT AT A GLANCE  
BOARD 2024**

The students Getting **95** PR or More **083**

The students Getting **99** PR or More **016**

The students Getting **90** PR or More **139**

The students Getting **98** PR or More **037**

The students Getting **85** PR or More **178**



**First in  
SOS****Bavariya Diya**PR **99.73**

Sci. Grade A1

Overall Grade A1

**Second in  
SOS****Bakutra Jigar**PR **99.59**

Sci. Grade A1

Overall Grade A1

**Third in  
SOS****Bhatt Disha**PR **99.56**

Sci. Grade A1

Overall Grade A2



Dethariya Yash

PR **99.36**

Kambariya Yash

PR **99.34**

Soni Het

PR **99.24**

Solanki Darshil

PR **99.23**

Solanki Neha

PR **99.21**

Ladumor Amit

PR **99.18**

Vaghela Nainil

PR **99.07****RESULT AT A GLANCE  
BOARD 2023**The students Getting **90** PR or More**089**The students Getting **98** PR or More**022**The students Getting **85** PR or More**125**The students Getting **95** PR or More**050**The students Getting **80** PR or More**157**

**Seventh  
in the Board**

Gadhadara Kishan

PR **99.93**

Sci. Grade A1

Overall Grade A1

**Tenth  
in the Board**

Ghediya Dikshant

PR **99.90**

Sci. Grade A1

Overall Grade A1

**Third in SOS**

Vasaniya Raj

PR **99.87**

Sci. Grade A1

Overall Grade A2



Bhanderi Keval

PR **99.57**

Manani Pooja

PR **99.20**

Kariya Vidhi

PR **99.19**

Akbari Hardik

PR **99.00****RESULT AT A GLANCE  
BOARD 2022**The students Getting **90** PR or More**081**The students Getting **98** PR or More**017**The students Getting **85** PR or More**108**The students Getting **95** PR or More**041**The students Getting **80** PR or More**144**



Total Marks 80

Section – A

24 Marks

\* Answer the following Q. no. 1 to 24 as directed: [ 1 mark each]

[24]

- The change in focal length of an eye lens is caused by the action of the .....  
(a) Pupil (b) retina (c) ciliary muscles (d) iris
- An electric iron of power 2kw is used for 3 hours. At Rs.5 per unit, the electricity bill will be .....  
(a) Rs. 45 (b) Rs.30 (c) Rs.15 (d) Rs. 10
- What is the frequency of 220 V AC voltage?  
(a) 50 Hz (b) 60 Hz (c) 220 Hz (d) Zero
- Which metal exists as liquid at room temperature?  
(a) Mercury (b) Bromine (c) Sodium (d) Calcium
- How many carbon atoms are present in formic acid?  
(a) 1 (b) 2 (c) 3 (d) 4
- Which of the following solution is most basic?  
(a) pH=8.2 (b) pH=9.3 (c) pH=11.5 (d) pH=0

\* Fill in the blanks :

- \_\_\_\_\_ is instrument used to measure the power of a lens.
  - Danger signals are red in colour because red light is \_\_\_\_\_.
  - 1 A = \_\_\_\_\_ mA.
  - working of an electric motor is based on \_\_\_\_\_ rule.
  - milk of magnesia is used as \_\_\_\_\_.
  - The molecular formula of sulphuric acid is \_\_\_\_\_.
- \* State whether the following statements are true or false :
- Silver and copper are good conductors of heat.
  - Dehydration of ethanol forms propene.
  - Mg is highly inactive metal.
  - Baking powder is used for faster cooking.

\* Answer the following questions as directed :

- Which mirror has large vision area?
- state the type of image of an object formed on the retina.
- How much energy in joule is consumed when 100 units electricity are used?
- What is commutator?

\* Match the following pairs correctly :

Column 'A' (Element)	Column 'B' (Electronic configuration)
(21) Green	(a) copper sulphate
(22) Blue	(b) Barium sulphate
	(c) Ferrous sulphate



Column 'A' (substance)	Column 'B' (colour)
(23) Converging lens	(a) it is a concave lens
(24) Diverging lens	(b) it acts as a magnifier
	(c) it is used as a reflector

### Section – B

18 Marks

\* **Answer the following questions:- (Any 9)**

25. Why do we apply paint on iron articles?
26. Give examples of corrosion.
27. Explain the term refractive index.
28. Why do stars twinkle?
29. Compute the heat generated while transferring 96000 coulomb of charge in one hour through a potential difference of 50 V.
30. State at least two points of difference.
31. Give scientific reason :L It is improper to use a copper wire as a fuse wire.
32. What is (a) the highest, (b) the lowest total resistance that can be secured by combinations of four coils of resistances  $4\Omega, 8\Omega, 12\Omega, 24\Omega$ ?
33. What is scattering of light? On what factors does it depend?
34. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image.
35. What is plane mirror? Write the nature of an image formed by a plane mirror.
36. State the characteristics of magnetic field lines.
37. Give two points of difference between AC current and DC current.

### Section – C

18 Marks

\* **Answer any six questions out of nine questions given below: [3 marks each]**

38. when you mixed the solutions of lead.
  - (i) What is the colour of precipitate obtained? Mention the name of the substance.
  - (ii) nitrate and potassium iodide, then
  - (ii) Write a balanced chemical equation for the reaction.
  - (iii) Write the type of reaction.
39. (1) Why copper is used to make taps. hot water tanks and not any other metal?  
(2) What will happen, if iron nails are kept in a solution containing copper sulphate?
40. Explain: Roasting and Calcination.
41. Which three main rays are used to locate the image formed by a spherical lens? Explain by drawing diagrams
42. State causes of hypermetropia. How can this defect be corrected? Draw suitable diagram to show it.

43. State the Ohm's law, Explain how it is used to define the SI unit of resistance.
44. What is the function of an earth wire? Why is it necessary to earth metallic appliances?
45. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is
- (1) Pushed into the coil.                      (2) Withdrawn from inside the coil,  
(3) held stationary inside the coil.
46. What is Presbyopia ? State causes of Presbyopia. How is this defect corrected?

**OR**

46. Write a short note on presbyopia.

**Section – D**

**20 Marks**

\* **Answer the questions:- (any 5)**

47. Answer the following questions:
- (1) Explain: Importance of pH in digestive system.  
(2) State the molecular formula of bleaching power and write its three uses.
48. Answer the following questions:
- (1) Why does an aqueous solution of HCl conduct electricity?  
(2) What change in concentration of  $H_3O^+$  ion observed, when a solution of an acid is diluted with water?  
(3) which of the solution among the concentrated HCl and dilute HCl possess the higher value of pH?  
(4) Write a chemical equation of reaction occur between dilute HCl with  $NaHCO_3$ .
49. An organic acid 'X' is a liquid which freezes during winter having the molecular formula  $C_2H_6O_2$ . on heating it with methanol in the presence of a few drops of concentrated  $H_2SO_4$ . A compound Y with a sweet smell is formed.
- (1) Identify X and Y. Mention the functional group present in them.  
(2) write a chemical equation for the reaction involved.
50. Describe the activity which diagram which explain refraction of light and lateral displacement through a rectangular glass slab.
51. Draw a labeled diagram of the human eye. (List at least four names of its part) and state the function of any two parts.
52. Explain the following the power used in the  $2\Omega$  resistor in each of the following circuits.
- (1) a 6 V battery in series with  $1\Omega$  and  $2\Omega$  resistors.  
(2) a 4 V battery in parallel with  $12\Omega$  and  $2\Omega$  resistors.
53. What is a solenoid? Discuss the magnetic field due to a current-carrying solenoid.
54. What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series ?



Total Marks 80

Section – A

24 Marks

\* Answer the following Q. no . 1 to 24 as directed: [ 1 mark each]

[24]

- Which of the following possesses citric acid?  
(a) Tamarind (b) Lemon (c) Tomato (d) Curd
- Which type of hydrocarbon compound is  $C_3H_8$  ?  
(a) Unsaturated (b) Alkyne (c) alkene (d) alkane
- Which of the following living organism can live without oxygen or air?  
(a) Amoeba (b) Yeast (c) Fish (d) leech
- Which metal is the best conductor of electricity?  
(a) Aluminium (b) Silver (c) Iron (d) Zinc
- If the power of a convex lens is + 0.5D, then what would be its focal length?  
(a) 50 cm (b) 25 cm (c) 20 cm (d) 5 cm
- Who regulates and controls the amount of light entering into the eye?  
(a) ciliary muscles (b) Retina (c) Pupil (d) Eye lens

\* Fill in the blanks :

- The earth crust has \_\_\_\_\_ % carbon in the form of minerals. (0.2, 0.02, 0.03)
- Magnetic force acting on a current-carrying wire kept in a magnetic field is in direction \_\_\_\_\_ to the magnetic field.  
(of magnetic field, of electric current, perpendicular to magnetic field)
- \_\_\_\_\_ is the respiratory pigment in human red blood corpuscles.  
(Hemoglobin, Chlorophyll, insulin)
- \_\_\_\_\_ animal change its sex. (Snail, Crocodile, Tortoise)
- The focal length of a concave mirror is 20 cm, then its radius of curvature is \_\_\_\_\_ cm.  
(10, 20, 40)
- There is (Are) \_\_\_\_\_ electron(s) in the outermost orbit of sodium atom.  
(one, two, three)

\* State whether the following statements are true or false :

- Gulium metal have very low melting point.
- Gene is a definite segment of DNA, which possesses information for the synthesis of protein.
- The image formed on retina is inverted.
- $NH_3$  is weak base.

\* Answer the following questions as directed :

- Hypothalamus is a part of which organ?
- In which class of animals is sex determination depends on the temperature of the fertilized ovule?



19. Find and write the mis-matched pair from the following.  
 (A) crystalline lens-Lens                      (B) Retina-Screen                      (C) Pupil -Prism
20. Name the scientist in whose honour the SI unit of electric current expressed.
- \* Match the following pairs correctly :

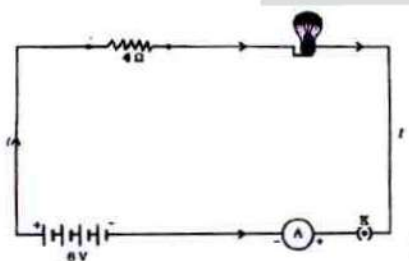
Column 'A'	Column 'B'	Column 'A'	Column 'B'
(21) Pancreas	(a) Growth hormone	(23) Elephant	(a) Herbivorous
(22) Pituitary gland	(b) Insulin	(24) Grass	(b) Omnivorous
	(c) Thyroxine		(c) Producer

### Section – B

18 Marks

\* **Answer the following questions:- (Any 9)**

25. (a) can rusting of iron take place in distilled water ? why?  
 (b) Aluminium is a reactive metal but still used for packing food articles. Why?
26. You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleaning the vessels.
27. Explain the reason of cramps in leg muscles after vigorous exercise.
28. What is fertilization? What is the site of fertilization in human being?
29. Differentiate between inherited and acquired characters.
30. What is meant by tyndall effect ? Explain.
31. An electric lamp, whose resistance is  $20\ \Omega$ , and a conductor of  $4\ \Omega$  resistance are connected to a 6 V battery. Calculate (a) the total resistance of the circuit, (b) the current through the circuit, and (c) the potential difference across the electric lamp and conductor.



32. Derive the formula for Joules law of heating.
33. There was a wire due to overloading in circuit in karan's house. What precautions had he taken to prevent this hazard.
34. What is the importance of food we?
35. With the help of an example explain how energy from the sun flows through the ecosystem.

36. Differentiate between breathing and respiration.  
37. Explain force acting on a current carrying conductor in a magnetic field.

**Section – C**

**18 Marks**

\* **Answer the questions. (Any – 6)**

38. 2g of ferrous sulphate crystals are heated in a dry boiling tube:  
(a) list of observations  
(b) Name the type of chemical reaction taking place and write the balanced chemical reaction.
39. Explain electrolytic refining.
40. Write the equations for the reactions of  
(i) iron with water.  
(ii) calcium and potassium with water.
41. (a) How are brain and spinal cord protected?  
(b) Differentiate sensory neuron and motor neuron.
42. What is vegetative propagation? Write two of its advantages.
43. Explain regeneration in Planaria by giving suitable diagram.
44. An object, 4.0 cm in size, is placed perpendicular to the principal axis of a convex lens of focal length 10 cm. The distance of the object from the lens is 15 cm. Find the nature, position and size of the image. Also find its magnification.
45. Write the sign convention for reflection by spherical mirror.
46. Explain the series combination of resistors and derive the formula of equivalent resistance.

**Section – D**

**20 Marks**

\* **Answer the questions:- (any 5)**

47. Explain chlor-alkali process.
48. A metal compound 'A' react with dilute hydrochloric acid to produce aqueous solution of common salt, and 'B' gas is liberated which turns lime water milky. Explain with activity and write its balanced equation.
49. What is hydrogenation? What is its industrial application?
50. Describe the process of urine formation in humans.
51. How do desert plants perform the process of photosynthesis through their stomata remain closed during day time.
52. A 2.0 cm tall object is placed perpendicular to the principle axis of a convex lens of focal length 10 cm. The distance of the object from the lens is 15 cm. Find the nature, position and size of the image. Also find its magnification.
53. What is the function of an earth wire? Why is it necessary to earth metallic appliances.
54. (a) what is ozone? How is it formed in the atmosphere? Explain.  
(b) how is ozone layer useful?  
(c) Name the substances responsible for the depletion.



Total Marks 80

Section – A

24 Marks

\* Choose the Right Answer Form the Given option. [ 1 mark each]

[24]

1. Which of the Following substance does not produce carbon dioxide, when it is treated with dilute acid?  
(a) Marble (b) Lime stone (c) Lime (d) Baking Soda
2. Write the Common name of ethanoic Acid?  
(a) Formic Acid (b) Acetic Acid (c) Propanoic Acid (d) Butanoic Acid
3. Select the correct Pair.  
(a) Stomata - transpiration  
(b) Translocation - glucose  
(c) Villi - egestion of faeces  
(d) trachea - cartilaginous rings.
4. Among violet yellow and red colour light which light has greatest wavelength?  
(a) Violet (b) red (c) yellow (d) none of above
5. A person has a defect of vision. His far point is 1.5 m. It means \_\_\_\_\_.  
(a) He cannot clearly see object at a distance more than 1.5 m from the eye  
(b) He can clearly see objects at a distance more than 1.5 m from the eye.  
(c) He cannot clearly see objects at a distance less than 1.5 m from the eye.  
(d) he suffer from far - sightedness
6. A cylindrical conductor of length ' $l$ ' and uniform area of cross section ' $A$ ' has resistance ' $R$ ' the area of cross. section of another conductor of same material and same resistance but of length ' $2l$ ' is  
(a)  $\frac{A}{2}$  (b)  $\frac{3A}{2}$  (c)  $2A$  (d)  $3A$
- \* **Fill in the blanks :**
7. Copper metal surface reacts with air and basic \_\_\_\_\_ layer is formed on it.  
(Zinc oxide, copper carbonate, copper oxide)
8. The molecules of soap are \_\_\_\_\_ salts of long chain carboxylic acid.  
(sodium, potassium, lithium, silicon)
9. The \_\_\_\_\_ in the wall of small intestine greatly increase the surface area for absorption.  
(villi, Bile juice, Blood vessels.)
10. The synthesis of enzymes in the cell is under the control of \_\_\_\_\_. (DNA, Virus, genes)
11. If the power of the correcting lens used in spectacles is - 0.4 D, then the type of lens must be \_\_\_\_\_.  
(convex, concave, plane)
12. 1 unit (commercial unit of electric energy) = \_\_\_\_\_.  
( $3.6 \times 10^6$ ,  $3.6 \times 10^4$  J,  $3.6 \times 10^5$ )
- \* **State whether the following statements are true or false : [1 Mark Each]**
13. The pH value of the blood is greater than 7.



14. Ionic compounds are insoluble in water and soluble in petrol.
15. Budding is an asexual reproduction method observed only in animals.
16. The speed of light decreases as it passes from an optically denser medium to an optically rarer medium.

\* **Do as directed [1 Mark Each]**

17. Why is chemical signal required along with electrical impulses in higher animals ?
18. State the name of ideas essential for understanding evolution.
19. How much is the equivalent resistance of series connection ?
20. What causes the potential difference between the two terminals of a cell ?

\* Match the following pairs correctly :

Column 'A'	Column 'B'
(21) Cytokinin	(a) Colouring test in lemon
(22) Ethylene	(b) Divar corn test
	(c) cell division test in plant

Column 'A'	Column 'B'
(23) Ozone	(a) Water pollution
(24) Accumulation of pesticides in the water	(b) Biological magnification
	(c) a deadly poison

### Section – B

**18 Marks**

\* **Answer the questions in brief :- [2 Marks Each]**

**(Write any 9)**

25. chemical changes observed in daily life. Discuss.
26. Which gas is produced when dilute hydrochloric acid is added to a reactive metal ?
27. Why do plants sometimes eliminate  $\text{CO}_2$  and sometimes  $\text{O}_2$  in Air ?
28. Explain the types of organisms on the basis of the modes of nutrition.
29. What could be the reasons for adopting contraceptive methods ?
30. Give the scientific reason :- The offsprings formed through asexual reproduction have same generic constitution as their parent cell.
31. Draw the magnetic field lines around a bar magnet.
32. Name the substance used to make a conducting wire resistive wire and resistor.
33. A. How much current will an electric bulb draw from a 220 V source, if the resistance of the bulb filament is  $1200 \Omega$  ?  
B. How much current will an electric heater coil draw from a 220 V source, if the Resistance of the heater coil is  $1000 \Omega$  ?
34. The potential difference between the terminals of an electric heater is 60 V When it draws a current of 4 A from the source. What current will the heater draw, if the potential difference is increased to 120 V ?

35. What could be the components of the garden ecosystem ?
36. Give the scientific reason : The trophic relationships of organisms occur in form of food webs.
37. Will the impact of removing all the organisms in a trophic level be different for different trophic levels ? can the organisms of any trophic level be removed without causing any damage to the ecosystem ?

**Section – C**

**18 Marks**

\* **Answer any questions in details : [3 marks each] (Write any 6)**

38. What is meant by unbalanced chemical equation ?
39. Write a note on "Properties of ionic compound." (Here we don't need to describe the experiments but need to give detailed explanation of their properties.)
40. State the properties of carbon compounds.
41. Explain the reproductive organs of flowering plants.
42. Why do organisms of same species look similar ?
43. Explain why fragmentation as reproductive method can work for few but not all multicellular organisms.
44. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image.
45. An object size 7.0 cm is placed at 27 cm in front of a concave mirror of focal length 18 cm. At what distance from the mirror should screen be placed, so that a sharp focused image can be obtained ? find the size and the nature of the image ?
46. Write a short note on electric - potential.

**Section – D**

**20 Marks**

\* **Answer the questions in details :- [4 Marks Each] (Write any 5)**

47. Write a chemical formula of hydrated copper sulphate and anhydrous copper sulphate. Giving an activity illustrate how these are inter convertible.
48. Reaction of Zinc granules with dilute sulphuric acid and how test of hydrogen gas by burning can be done ? Discuss this experiment.
49. Explain the chemical reaction of ethanoic Acid.
50. Explain :- Mechanism of micelle formation
51. Explain transport of food and other substances through phloem.
52. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is I what is the power of lens required to correct this defect ?
53. Explain the components of ecosystem.
54. State the points of explanation which are derived from the study of flow of energy in an ecosystem.



Total Marks 80

Section -A

(24)

\* Answer the following as per the instructions given : [Q. nos. 1 to 24 -1 mark each]

\* Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)

1. HCF and LCM of two positive integers a and b satisfy a relationship, that .....

(A)  $(\text{HCF})(\text{LCM}) = \frac{a}{b}$

(B)  $(\text{HCF})(\text{LCM}) = 1$

(C)  $(\text{HCF})(\text{LCM}) = ab$

(D) no defined relation

2. If  $2 \pm \sqrt{3}$  are the two zeroes of a polynomial, then find the polynomial.

(A)  $x^2 - 4x + 1$

(b)  $x^2 + 4x - 1$

(c)  $4x^2 + x - 1$

(d)  $4x^2 - x + 1$

3. If  $x + 5y = 34$  and  $x - 5y = -6$  then find the value of  $5y - 2x$ .

(A)  $-8$

(B)  $14$

(C)  $8$

(D)  $20$

4. If the roots of  $px^2 + qx + 2 = 0$  are reciprocals of each other then .....

(A)  $p = 0$

(B)  $p = -2$

(C)  $p = \pm 2$

(D)  $p = 2$

5. The sum of 12 terms of an AP whose  $n^{\text{th}}$  term is given by  $a_n = 3n + 4$ , is .....

(A) 262

(B) 272

(C) 282

(D) 292

6. In  $\Delta ABC$ ,  $DE \parallel BC$ ,  $AD = 3$  cm,  $DB = 8$  cm and  $AC = 22$  cm. At what distance from A does the line DE and AC ?

(A) 6 cm

(B) 4 cm

(C) 10 cm

(D) 5 cm

\* Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)

7. The circum centre of the triangle with vertices  $(6,0)$ ,  $(0,0)$  and  $(0,8)$  is \_\_\_\_\_ .  
{(2,4), (3,4), (2, 5)}8.  $\frac{1}{\sin^2 \theta} - 1 =$  \_\_\_\_\_ .  
( $\cos^2 \theta$ ,  $\tan^2 \theta$ ,  $\cot^2 \theta$ )9. If tangents PA and PB from point P to a circle with centre O are inclined to each other at an angle of  $80^\circ$ , then  $\angle POA =$  \_\_\_\_\_ .  
(50, 60, 65)10. In a circle with radius 20cm, the length of an arc is 10 cm. The area of the sector corresponding to this arc is \_\_\_\_\_  $\text{cm}^2$ .  
(10, 100, 1000)11. The volume of a cone with radius 7 cm and height 12 cm is \_\_\_\_\_  $\text{cm}^3$ . (232, 108, 616)12. If the median of the observations arranged in the ascending order as 24,25,26,x+2,x+3,30,31,34, is 27.5 then  $x =$  \_\_\_\_\_ .  
(25, 20, 15)

\* **State whether the following statements are true or false : (Q. nos. 13 to 16)**

13. If a class, there are 35 boys and 25 girls. The probability that a girl is elected as the monitor is  $\frac{5}{12}$ .
14. For  $a = 2$ , the pair of equations  $ax + 4y = 12$  and  $6x + 12y = 36$  has infinitely many solutions.
15. The discriminant of the equation  $5x^2 - 9x + 5 = 0$  is 181.
16. The origin is the midpoint of the line segment joining the points  $A(3,5)$  and  $B(-5,-3)$ .

\* **Answer the following by a number of a word or a sentence : (Q. nos. 17 to 20)**

17. A volumes of two spheres are in the ratio 343 : 216. Find the ratio of their surface areas.
18. If mode=10.6 and median = 11.5 then find mean, using the empirical relation.
19. Find  $(HCF \times LCM)$  for the numbers 100 and 190.
20. For what value of  $k$ ,  $x = \frac{1}{2}$  satisfies  $kx^2 - 3x - k = 0$  ?

\* **Match the list : (Q. Nos. 21 to 24)**

"A"

"B"

21.  $p(x) = x^2 + 11x + 28$  (a)  $S = 3, P = -28$
22.  $p(x) = x^2 - 3x - 28$  (b)  $S = -11, P = 28$   
(c)  $S = -3, P = -28$

"A"

"B"

23.  $\sin^2\theta + \cos^2\theta =$  (a)  $\frac{1}{\sec\theta}$
24.  $\tan\theta =$  (b)  $\frac{\sin\theta}{\cos\theta}$   
(c) 1

**Section -B**

**(18)**

\* **Solve any 9 questions from the following 13 questions :**

**(Q. nos. 25 to 37 -2 marks each)**

25. Prove that  $5 - \sqrt{3}$  is an irrational number.
26. If  $m$  and  $n$  are the zeroes of the polynomial  $3x^2 + 11x - 4$ , then find the value of  $\frac{m}{n} + \frac{n}{m}$ .
27. Solve for  $x$  :  $\frac{4}{x} - 3 = \frac{5}{2x+3}, x \neq 0, -\frac{3}{2}$ .
28. A shopkeeper buys a number of books for Rs.1200, if he had bought 10 more books for the same amount, each book would have cost him Rs.20 less. How many books did he buy ?



29. Sum of the first  $n$  terms of an AP is  $5n^2 - 3n$ . find the AP and also find its 16<sup>th</sup> term.
30. Prove that :  $(\operatorname{cosec} \theta - \cot \theta)^2 = \frac{1 - \cos \theta}{1 + \cos \theta}$ .
31. If  $\tan A = \frac{3}{4}$ , then show that  $\sin A \cos A = \frac{12}{25}$ .
32. The Indian Cricket Association organised a fund raised cricket match between India and Pakistan for earthquake victims. A person is standing outside the ground at a distance of 26 cm from the centre of the ground. He found that his distance from the points A and B on the ground is 10 cm. Find the radius of the circular ground.
33. A ball fits exactly inside the cubical box of side 6 cm. What is the volume of the ball?
34. If the mean of 5 observations  $x, x + 2, x + 6,$  and  $x + 8$  is 11 find the value of  $x$ .
35. The given distribution shows the number of wickets taken by bowlers in one day international cricket matches.

Number of wicket	Number of bowlers
Less than 15	2
Less than 30	5
Less than 45	9
Less than 60	17
Less than 75	39
Less than 90	54
Less than 105	70
Less than 120	80

Find the median.

36. Two different dice are thrown together one, Find the probability (a) of getting a doublet (b) getting a sum 10 of the numbers on the two dice.
37. In the word 'APPLE', if we take one letter randomly, what is the probability that it is 'P'?

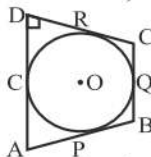
### Section -C

(18)

\* **Answer any 6 questions from the following 9 questions as asked with calculations : (Q. nos. 36 to 46 -3 marks each)**

38. Find the quadratic polynomial, the sum and product of whose zeroes are -10 and 25, respectively. Hence find the zeroes.
39. Find the quadratic polynomial, whose zeroes are (a)  $3 + \sqrt{2}$  and  $3 - \sqrt{2}$ .
40. How many terms of the AP: 17, 15, 13, 11, ..... Must be added to get the sum as 72 ?
41. 360 bricks are stacked in the following manner, 30 bricks in the bottom row, 29 bricks in the next row, 28 bricks in the row next to it, and so on. In how many rows can 360 bricks be placed and how many bricks are there in the top row?
42. If (a, b) is the midpoint of the line segment joining the points A(10, -6) and B(k, 4) and  $a - 2b = 18$ , find the value of k and the distance AB.

43. In the given figure ABCD is a quadrilateral such that  $\angle A = 90^\circ$ . A circle with center O and radius r, touches the sides AB, BC, CD, and DA at P, Q, R and S, respectively. If  $BC = 38$  cm,  $CD = 28$  cm and  $BP = 25$  cm, find r.



44. If a, b, c are the sides of a right triangle where c is the hypotenuse, prove that the radius of the circle which touches all the sides of the triangle is given by  $r = \frac{a+b-c}{2}$ .
45. A brooch is made with golden wire in the form of a circle with diameter 42 mm. The wire is also used in making 5 diameters which divide the circle into ten equal sectors, as shown in the figure Find : (a) the total length of the golden wire required. (b) the area of each sector of the brooch.

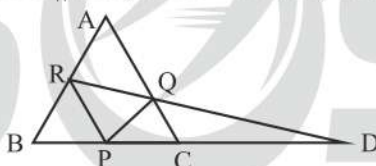


46. Tickets numbered as 2, 3, 4, 5, ..., 101 are placed in a box and mixed thoroughly. One ticket is drawn at random from the box. Find the probability that the number on the ticket is : (a) an even number (b) a number less than 16 (c) a number which is a perfect square. (d) a prime number less than 40.

#### Section – D

- \* Answer any 5 questions from the following 8 questions as asked with calculations : (Q. nos. 47 to 54 – 4 marks each) (20)

47. Taxi charges in a city consist of fixed charges and the remaining depending upon the distance travelled in kilometers. If a person travels 50 km, he pays Rs. 580 and for travelling 80 km, he pays Rs. 880. Find the fixed charges and the rates per km.
48. 8 audio cassettes and 4 video cassettes cost Rs. 1440, while 5 audio cassettes and 8 video cassettes cost Rs. 2550. Find the cost of an audio cassette and a video cassette.
49. In the given figure,  $PQ \parallel BA$  and  $PR \parallel CA$ , if  $PF = 12$  cm, then find  $BD \times CD$ .



50. Prove SAS criterion.
51. Two ships are sailing the sea on either side of a lighthouse. The angles of depression of the ships as observed from the lighthouse are  $60^\circ$  and  $45^\circ$ , respectively. If the distance between the ships is  $\frac{200(\sqrt{3}+1)}{\sqrt{3}}$  metres, then find the height of the lighthouse.
52. Water is flowing at the rate of 15 km/h through a pipe of diameter 14 cm into a cubical pond which is 50 m long and 44 m wide. In what time will the level of water in pond rise by 21 cm ?
53. A toy is in the form of a cone mounted on a hemisphere of radius 7 cm. If the total height of the toy is 31 cm, find its total surface area.
54. The mean of the following frequency distribution is 62.8 and the sum of all frequencies is 50. Compute the missing frequencies  $f_1$  and  $f_2$ .

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

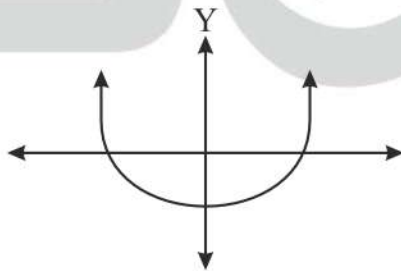


Total Marks 80

Section -A

(24)

- \* Answer the following as per the instructions given : [Q. nos. 1 to 24 -1 mark each]
- \* Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)
- If the pair of equations  $2x + 2y + 2 = 0$  and  $4x + ky + 8 = 0$  has unique solution, then  $k \neq$  .....  
 (A) 4 (B) 2 (C) -4 (D) 8
  - If  $p$  and  $q$  are positive integers where  $p = ab^2$  and  $q = a^3b$  where  $a$  and  $b$  are prime numbers then  $\text{LCM}(p, q) = \dots$   
 (A)  $ab$  (B)  $a^2b^2$  (C)  $a^3b^3$  (D)  $a^2b^3$
  - In rhombus  $ABCD$ ,  $AB \parallel CD$  and the diagonals  $AC$  and  $BD$  intersect at  $M$ . If  $MA = 6$ ,  $MB = 9$  and  $MC = 98$ , then  $MD = \dots$   
 (A)  $58/9$  (B) 11 (C)  $58/8$  (D) 12
  - If the roots of quadratic equation  $ax^2 + bx + c = 0$ ,  $a \neq 0$  real and distinct, then .....  
 (a)  $b^2 - 4ac < 0$  (b)  $b^2 - 4ac = 0$  (c)  $b^2 - 4ac > 0$  (d)  $b^2 - 4ac \neq 0$
  - For a given AP,  $a_n = 5n + 3$  then the 15<sup>th</sup> term of the AP is .....  
 (A) 76 (B) 72 (C) 78 (D) 75
  - For the given figure if  $y = p(x)$ , then number of zeroes are .....



- (A) 1 (B) 2 (C) 3 (D) 0

- \* Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)
- The hour-hand of a clock subtends an angle of measure ..... During 1 minute.  
 (0.5, 0.05, 50)
  - The ratio of surface area of two spheres is 1 : 2, then the ratio of their volume is .....  
 ( $2:\sqrt{2}$ ,  $1:2\sqrt{2}$ ,  $3:2\sqrt{2}$ )
  - Mode - Mean = .....  $\times$  (Median - Mean) (2, 3, 4)

10. Co-ordinates of mid point M of line segment AB joining the points A(2a-b, b) and B(b, 2a-b) are ..... [(a,2b), (a,a), (b,b)]
11. If  $\sin A = \frac{1}{2}$ , and  $\cot B = 1$  then  $A + B = \dots\dots\dots$  (60, 90, 75)
12. Point A lies in the exterior of the circle with center P and a tangent from point A touches the circle at B. If  $PA = 37$  cm and  $AB = 35$  cm then the diameter of the circle is ..... (12, 24, 30)

\* **State whether the following statements are true or false : (Q. nos. 13 to 16)**

13. If  $P(A) > P(B)$ , then  $p(\underline{A}) < p(\underline{B})$
14. The graph of the equation  $5y + 7 = 37$  is a line parallel to the y – axis.
15. The roots of the quadratic equation  $x^2 - 7x + 12 = 0$  are 3 and 4.
16. The distance of points (3, -7) from y – axis is 7.

\* **Answer the following by a number or a word or a sentence : (Q. nos. 17 to 20)**

17.  $HCF(306, 657) = \dots\dots\dots$
18. If one of the roots of quadratic equation  $x^2 - 4x + m = 0$  is 3 then  $m = 3$ .
19. Find the volume of a hemisphere with diameter 18 cm.
20. If the mean of the mean of the observation 45, 55, 53, 32, 63 and x is 48, Find the value of x.

\* **Match the list : (Q. Nos. 21 to 24)**

\* Match the quadratic polynomial p(x) given in Section 'A' to sum of zeroes S and product of Zeroes P given in Section 'B' :

- |                             |                              |
|-----------------------------|------------------------------|
| <b>"A"</b>                  | <b>"B"</b>                   |
| 21. $P(x) = x^2 + 11x + 28$ | (a) $SZ = 3$ (b) $PZ = -28$  |
| 22. $P(x) = x^2 - 3x - 28$  | (b) $SZ = -11$ (b) $PZ = 28$ |
| <b>"A"</b>                  | <b>"B"</b>                   |
| 23. The value of $\sin 30$  | (a) $1/\sqrt{2}$             |
| 24. The value of $\cos 30$  | (b) $1/2$                    |
|                             | (c) $\sqrt{3}/2$             |

**Section -B** **(18)**

\* **Solve any 9 questions from the following 13 questions : (Q. nos. 25 to 37 -2 marks each)**

25. Prove that  $5 + 2\sqrt{7}$  is irrational.
26. Find the zeroes of the quadratic polynomial  $6x^2 - 13x + 6$ .
27. Verify whether the pair of liner equations :  $\frac{4}{3}x + 2y = 8$  and  $2x + 3y = 12$  is consistent or not.



28. Find the sum of the first 30 terms of the AP  $16, 6 - 4, \dots$
29. Evaluate :  $\sin 60^\circ \cdot \cos 30^\circ + \sin 30^\circ \cdot \cos 60^\circ$
30. If  $2 \tan^2 45^\circ + x - \sin^2 60^\circ = 2$ , find the value of  $x$ .
31. Find the roots of the quadratic equation  $5x = 6 + \frac{2}{x}$  by the method of general formula.
32. The radii of two concentric circles are 13 cm and 5 cm. A chord of the bigger circle touches the smaller circle. Find the length of the chord.
33. On his birthday Virat distributes a cake measuring  $50 \text{ cm} \times 25 \text{ cm} \times 10 \text{ cm}$  among the 50 friends equally, How much cake is received by each friend ?
34. From a data Find mean.  $A = 110, \sum f_i u_i = 190, \sum f_i = 200$  and  $h = 20$ .
35. From a data find median.  $L = 50, h = 160, cf = 72, f = 20$  and  $h = 10$ .
36. One card is drawn from a well shuffled pack of 52 cards find the probability of getting  
1) spade 2) red face card.
37. Find the probability that a non-leap year chosen at random has (1) 52 Sundays (2) 53 Sundays

### Section -C

(18)

\* **Answer any 6 questions from the following 9 questions as asked with calculations : (Q. nos. 36 to 46 -3 marks each)**

38. Find the zeros of the polynomial  $x^2 - 7$  and verify the relationship between zeroes and coefficient.
39. If  $P(2,3), Q(3,-2), R(-3,-5)$  and  $S(-4, -2)$  are the vertices of a quadrilateral, find the area of the quadrilateral PQRS.
40. Obtain the quadratic polynomial whose sum of zeroes =  $21/8$  and product of zero =  $5/16$ .
41. Aanera has to send her son to school after 12 weeks. She requires Rs. 3150 for the same. She saves Rs. 100 in the 1<sup>st</sup> week and then increase her weekly savings for Rs. 30. Find whether Aanera will be able to full fill her requirements.
42. If  $l, m, n$  are the sides of a right triangle where  $n$  is the hypotenuse prove that the radius of the circle which touches all the sides of the triangle is given by  $r = \frac{l+m-n}{2}$ .
43. How many terms of the AP  $5, 8, 11, \dots$  should be taken so that their sum is 670 ?
44. A quadrilateral is drawn to circumscribe a circle, then prove that the sum of its opposite sides are equal.
45. A chord of a circle of radius 10 cm subtends a right angle triangle at the center. Find the area of the corresponding 1) Minor segment 2) Major sector.

46. A box contains 12 balls out of which  $x$  are blue. If 1 ball is drawn at random from the box, What is the probability that the selected ball is blue ? If 6 more blue balls is put in the box, the probability of drawing a blue ball is now double of what it was before.

**Section -D**

**(20)**

\* **Answer any 5 questions from the following 8 questions as asked with calculations :  
(Q. nos. 47 to 54 -4 marks each)**

47. The ratio of incomes of two persons is  $9 : 7$  and the ratio of their expenditure is  $4 : 3$ . If each of them manages to save Rs. 2000 per month, find their monthly incomes.
48. From a bus stand in Bangalore, if we buy 2 tickets to Malleswaram and 3 tickets to Yeshwanthpur, the total cost is Rs. 46 but if we buy 3 tickets to Malleswaram and 5 tickets to Yeshwanthpur the total cost is Rs. 74. Find the fares from the bus stand to Malleswaram, and to Yeshwanthpur.
49. In two triangles, if corresponding angles are equal, then prove that their corresponding sides are in the same ratio and hence two triangles are similar (AAA criterion)
50. Prove the fundamental theorem.
51. From a point on a bridge across a river, the angles of depression of the banks on opposite sides of the river are  $30^\circ$  and  $45^\circ$ , respectively. If the bridge is at a height of 3 m from the banks, find the width of the river.
52. A cylinder is closed at both ends by hemispheres. The radius of the cylinder is 7 cm and the total height of the article is 34 cm find the total surface area and volume of the article.
53. The base of cone with radius 15 cm and slant height 25cm is hemispherical. Find the Volume of the solid.
54. The mode of the following data is 33.33 and the total frequency is 100.

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	7	12	X	28	Y	9

Find the missing frequency  $x$  and  $y$ .



Total Marks 80

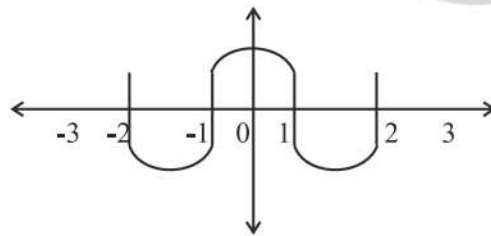
Section – A

(24)

\* Answer the following as per the instructions given : [Q. nos. 1 to 24 -1 mark each]

\* Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)

1. LCM (a, 18) = 36, HCF (a, 18) = 2 then a = \_\_\_\_\_ .  
 (A) 2 (B) 3 (C) 4 (D) 1
2.  $x = 7, y = 4$  is one of the solution of  $10x - 3y = k$ , then  $k =$  \_\_\_\_\_ .  
 (A) 4 (B) 1 (C) 18 (D) 31
3. If the coordinates of the midpoint P of the line segment joining x and y is  $(-2, 3)$ , then which is true.  
 (A)  $X(-4, 3), Y(2, 2)$  (B)  $X(0, 2), Y(-2, 2)$   
 (C)  $X(-6, 2), Y(2, 4)$  (D)  $X(-4, -2), Y(0, 4)$
4. \_\_\_\_\_ is a quadratic equation.  
 (A)  $x + \frac{1}{4} = x^2$  (B)  $\sqrt{x^3} + x + 5 = 2$   
 (C)  $2x + \frac{1}{x^2} = 5$  (D)  $\sqrt{4x^4} + 4x + 1 = 0$
5. 3 balance coins are tossed. Find the probability at most two tails comes up.  
 (A)  $\frac{1}{2}$  (B)  $\frac{3}{8}$  (C)  $\frac{5}{8}$  (D)  $\frac{7}{8}$
6. Numbers of zeroes of group of  $P(x)$  between  $-2$  &  $2$ .  
 (A) 3  
 (B) 6  
 (C) 2  
 (D) 4

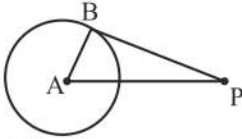


\* Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)

7.  $\bar{x} = 6.45, \sum fi = 100, \sum fixi =$  \_\_\_\_\_ . (645, 64.5, 54.5)
8.  $P(A):P(\bar{A}) = 4 : 1$  then  $P(\bar{A}) =$  \_\_\_\_\_ . ( $\frac{3}{2}, \frac{2}{5}, \frac{1}{5}$ )
9. The probability of the correct answer in the paper is  $\frac{x}{12}$  and incorrect answer is  $\frac{2}{3} x =$  \_\_\_\_\_ . (4, 5, 6)

10. A circle has \_\_\_\_\_ tangents. (1, 2, infinit)

11. In the given figure  $\angle PBA =$  \_\_\_\_\_. ( $30^\circ, 60^\circ, 90^\circ$ )



12. The roots of the quadratic equation  $4x^2 - 49 = 0$  are \_\_\_\_\_. ( $\sqrt{7}/2, -\sqrt{7}/2$ ), ( $2/\sqrt{7}, -2/\sqrt{7}$ ), ( $1/2, -1/2$ )

\* **State whether the following statements are true or false : (Q. nos. 13 to 16)**

13. The product of two rational no. is always rational.

14. The graph of  $4x + 7y = 0$  is a line passing through the origins.

15.  $1 + \cot^2\theta = \operatorname{cosec}^2\theta$ .

16.  $\sec^2\theta - 1 = \tan^2\theta$ .

\* **Answer the following by a number or a word or a sentence : (Q. nos. 17 to 20)**

17.  $d = -6$ , Then, find  $a_{26} - a_{22}$ .

18. If  $K - 1, K + 3, 3K - 1$  are 3 consecutive terms of AP find the value of K.

19. If area of the square is the same as area of the circle. Find the ratio of perimeter of the square and circle.

20. find the area of semicircle with radius 5 cm.

\* **Match the list : (Q. Nos. 21 to 24)**

\* Match the quadratic polynomial  $p(x)$  given in Section 'A' to sum of zeroes S and product of Zeroes P given in Section 'B':

"A"

"B"

21. Volume of sphere

(a)  $h + r$

22.  $l^2$

(b)  $h^2 + r^2$

(c)  $\frac{4}{3}\pi r^3$

"A"

"B"

23.  $a = 7, d = 3, a_{24} = ?$

(a)  $\frac{n}{2}[2a + (n-1) \cdot d]$

24.  $S_n =$

(b) 76

(c) 67

**Section -B**

**(18)**

\* **Solve any 9 questions from the following 13 questions :**

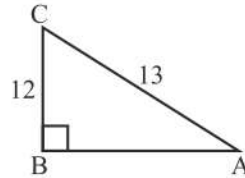
**(Q. nos. 25 to 37 -2 marks each)**

25. If  $\alpha$  &  $\beta$  are the zeroes of  $P(x) = 6x^2 - 17x + 12$ , then find  $\frac{1}{\alpha} + \frac{1}{\beta}$ .



26. For  $P(x) = x^2 + (K - 9)x + (K - 1)$ . If the sum of zero and product of zero is equal the find the value of K.
27. Find the missing term  $-4, \square, \square, \square, \square, 6$ .
28. Which term of the AP 3, 8, 13, 18, ..... is 98 ?
29. A ladder leans on a wall such that its upper end reaches to the height 5 m on the wall. If the ladder makes an angle  $30^\circ$  with the ground. Find the length of the ladder.
30. The observations of a data  $\frac{x}{5}, x, \frac{x}{4}, \frac{x}{3}, \frac{x}{2}$ . If the media of the data is 10. Find x.

31. Evaluate  $\cot A + \tan C$  from the figure



32. If  $\operatorname{cosec} \theta = \frac{41}{40}$ , find  $\tan \theta, \cos \theta$ .

33. The volume of 2 spheres are  $1372 \text{ cm}^3$  &  $500 \text{ cm}^3$ . Find the ratio of their radii.

34. The base of a cone with radius 5 cm and height 12 cm is hemispherical. Find TSA of article ( $\pi = 3.14$ )

35. For points  $A(2, 4)$  &  $B(-3, b)$ .  $AB = \sqrt{26}$ . Find the value of b.

36. Form a quadratic polynomial whose zeroes are  $3 + \sqrt{2}$  &  $3 - \sqrt{2}$ .

37. Find Mode.

Class	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120
Frequency	10	35	62	61	38	29

### Section - C

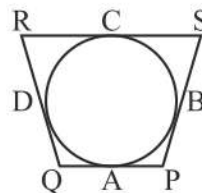
(18)

- \* Answer any 6 questions from the following 9 questions as asked with calculations : (Q. nos. 36 to 46 - 3 marks each)

38. Two rails are represented by equations  $x + 2y - 4 = 0$  &  $2x + 4y - 12 = 0$ , will rails cross each other ?

39. The larger of 2 supplementary angles exceeds the smaller by 18 degree. Find angles.

40. A quadrilateral PQRS is drawn to circumscribe a circle (see the given figure)



Prove that  $PQ + RS = PS + QR$ .

41. Prove that the tangents drawn at the ends of a diameter of a circle are parallel.

42. How many multiples of 5 between 10 & 250.

43. In what ratio point  $(-4, 6)$  divide the line segment joining  $A(-6, 10)$   $B(3, -8)$  ?

44. Check whether  $A(5, -2), B(6, 4), C(7, -2)$  are the vertices of an isosceles triangle.

45. Find mean

Class	20 – 60	60 – 100	100 – 150	150 – 200	200 – 300	300 – 500
Frequency	7	5	2	16	4	5

46. A die is thrown once. Find the probability of getting (1) Prime no. (2) between 3 & 6 (3) even no.

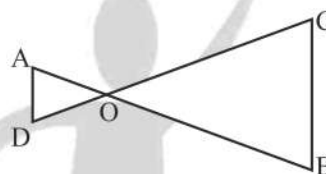
**Section –D**

**(20)**

\* **Answer any 5 questions from the following 8 questions as asked with calculations : (Q. nos. 47 to 54 -4 marks each)**

47. If in two triangle, sides of one triangle are proportional to (i.e. in the same ratio) sides of the other triangle, then their corresponding angles are equal and hence the two triangles are similar.

48. In the given figure  $OA \times OB = OC \times OD$   
Show that  $\angle A = \angle C$  &  $\angle B = \angle D$



49. A train travels a distance of 480 km at a uniform speed. If the speed had been decreased by 8 km/h. Then it would take 3 hours more to cover same distance. Find the speed of train.

50. Find the mean and mode of the data

Class	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50
Frequency	3	8	9	10	3	0	2

51. A sum of Rs. 700 to be used to give 7 cash prizes to students of school for their sports performance. If each prize is Rs. 20 less its preceding prizes. Find the value of each prize.

52. If the median of the data is 28.5. Find the value of x & y.

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	Total
Frequency	5	x	20	15	y	5	60

53. The lengths of tangents drawn from an external point to a circle are equal.

54. 2 cubes each of volume  $64 \text{ cm}^3$  are joined end to end. Find the surface area of the resulting cuboid.



Total Marks 80

Section -A

(24)

\* Answer the following as per the instructions given : [Q. nos. 1 to 24 -1 mark each]

\* Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)

1. The graphs of the equation  $3x + 5y = 30$  and \_\_\_\_\_ represent parallel lines.  
(A)  $5x + 3y = 30$  (B)  $6x + 10y = 60$  (C)  $9x + 15y = 90$  (D)  $9x = -15y$
2. \_\_\_\_\_ equation has not real roots.  
(A)  $x^2 - 4x + 3\sqrt{2} = 0$  (B)  $x^2 + 4x - 3\sqrt{2} = 0$   
(C)  $x^2 - 4x - 3\sqrt{2} = 0$  (D)  $3x^2 + 4\sqrt{3} + 4 = 0$
3.  $2K + 1, 13, 5K - 3$  are 3 consecutive terms of an AP, then  $K =$  \_\_\_\_\_ .  
(A) 9 (B) 4 (C) 17 (D) 13
4. The co-ordinates of P dividing the join of points A(1, 3) & B(4, 6) in the ratio 2 : 1 are \_\_\_\_\_ .  
(A) (2, 4) (B) (3, 5) (C) (4, 2) (D) (5, 3)
5.  $\frac{\sec \theta \cdot \operatorname{cosec} \theta}{\cos \theta} =$  \_\_\_\_\_ .  
(A)  $\tan \theta$  (B)  $\cot \theta$  (C)  $\operatorname{cosec} \theta$  (D)  $\sec \theta$

6. Modal class is \_\_\_\_\_ .

Class	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100
$f$	8	15	22	25	10

- (A) 0 – 20 (B) 20 – 40 (C) 60 – 80 (D) 40 – 60

\* Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)

7.  $\operatorname{LCM}(23, 35, 46) =$  \_\_\_\_\_ . (1610, 1069, 1024)
8. The product of zeroes of  $P(x) = 6x^2 - 3 - 7x =$  \_\_\_\_\_ .  $\left(\frac{1}{2}, \frac{-1}{2}, \frac{3}{2}\right)$
9.  $P(E) - P(\bar{E}) = -0.3$ , then  $P(E) =$  \_\_\_\_\_ . (0.7, 0.8, 1)
10. If  $\cos A = \frac{4}{5}$  then  $\tan A =$  \_\_\_\_\_ .  $\left(\frac{3}{5}, \frac{3}{4}, \frac{5}{3}\right)$
11. PQ is a tangent to a circle with centre O at the point P. If  $\Delta OPQ$  is an isoscales triangle, the  $\angle OQP =$  \_\_\_\_\_ .  $(30^\circ, 60^\circ, 90^\circ)$
12. If  $z = 26$ ,  $\bar{x} = 20$ ,  $M =$  \_\_\_\_\_ . (23, 22, 24)

\* State whether the following statements are true or false : (Q. nos. 13 to 16)

13.  $\operatorname{HCF}(a, b) \times \operatorname{LCM}(a, b) = a \times b$
14.  $P(x) = x^2 + 5x + 4$ , the 5.2 is greater than P.Z.
15. (a, 7) is one of the solution of equation  $3x + 2y = 41$ , then  $a = 9$ .

16. The probability of having 53 Sundays in the year 2019 is  $\frac{3}{7}$ .

\* **Answer the following by a number or a word or a sentence : (Q. nos. 17 to 20)**

17. What is the result if P.Z. of  $P(X) = x^2 + x - 20$  is subtracted from the S.Z of  $P(x) = x^2 - 10x + 21$  ?

18. What is inradius of a circle inscribed in a triangle with sides of length 12 cm, 35 cm, 37 cm ?

19.  $P(A) = \frac{x}{2}$ ,  $P(\bar{A}) = \frac{x}{3}$ , find x.

20. Find the algebraic sum of the deviations of all the observations from their mean.

\* **Match the following : (Q. Nos. 21 to 24)**

"A"

"B"

21. CSA of sphere with radius 7 cm

(a)  $\frac{1}{3}\pi r^2 h$

22. Volume of a cone

(b) 616

(c)  $2\pi r$

"A"

"B"

23. Area of minor sector

(a)  $\frac{\pi r^2 \theta}{180}$

24. Circumference of circle

(b)  $2\pi r$

(c)  $\frac{\pi r^2 \theta}{360}$

**Section -B**

**(18)**

\* **Solve any 9 questions from the following 13 questions :**

**(Q. nos. 25 to 37 -2 marks each)**

25. Find the zeros of  $P(x) = x^2 + 5x - 14$  and verify the relationship.

26. Find the zeros of  $P(t) = 5t^2 + 12t + 7$  and verify the relationship.

27. Find the roots of the quadratic equation by factorizing method  $x^2 - \frac{8x}{15} + \frac{1}{15} = 0$ .

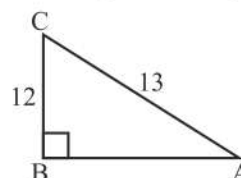
28. The 10<sup>th</sup> term of an AP is 52 and its 17<sup>th</sup> term is 20 more than its 13<sup>th</sup> term. Find AP.

29. Find the sum of all the multiples of 3 lying between 250 and 1000.

30. (1, 7)(2, 4)(K, 5) are the vertices of a right triangle, find the value of K.

31. Find the coordinates of the point of trisection of the line segment A(-2, -1) & B(7, 8).

32. Evaluate  $\cot A + \tan C$  from the following figure.





33. Find the value of  $x$ .  $\sin 2x = \sin 60^\circ \cos 30^\circ - \cos 60^\circ \sin 30^\circ$ .
34. Watching from the top of a 30 m high tower, the angle of depression of a stone lying on the ground is to be  $45^\circ$ . Find the distance of the stone from tower.
35. The base of cone with radius 15 cm and slant height 25 cm is hemispherical. Find the volume of this solid ( $\pi = 3.14$ )
36. 6 wooden cubes of length 3 cm are arranged in a row touching each other. Find TSA of solid.
37. Find the mode :

Class	0 – 100	100 – 200	200 – 300	300 – 400	400 – 500	500 – 600
Frequency	7	21	37	13	12	10

**Section -C**

**(18)**

- \* **Answer any 6 questions from the following 9 questions as asked with calculations : (Q. nos. 38 to 46 – 3 marks each)**

38. Solve by substitution method :  $3x - y = 9$ ,  $2x + 3y = 17$
39. Solve the equation :  $53x - 47y = 118$ ,  $47x - 53y = 82$
40. Find the no. of terms : 3, 6, 9, ....., 11
41. 3 Vertices of parallelogram ABCD are A(1, 2), B(2, 4), C(5, 9). Find 4<sup>th</sup> vertex D.
42. Point P(3, b) divides the line segment AB A(1, 2), B(4, 5) in the ratio 2 : 1. Find the value of b.
43. The tangent at any point of a circle is perpendicular to the radius through the point of contact.
44. AB is tangent to a circle with centre P and B is a point of contact PA intersects the circle at C. If AB = 15 cm and AC = 9 cm,. Find radius.
45. Find Median :

Class	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45
$f$	5	6	15	10	5	4	2	2

46. There are 5 red, 8 white, 4 green balls in a box. A ball is randomly selected find the probability (1) Red, (2) White, (3) not green.

**Section -D**

**(20)**

- \* **Answer any 5 questions from the following 8 questions as asked with calculations : (Q. nos. 47 to 54 – 4 marks each)**

47. Write fundamental theorem.

48. Find the mode of the following data.

Marks	Number of Students
Below 10	8
Below 20	20
Below 30	45
Below 40	58
Below 50	70

49. Find two parts of 20 such that the square of the greater part exceeds twice the square of the smaller part by 16.
50. The sum of first 6 terms of an AP is 86 and the sum of its first 16 terms is 256. Find the sum of first 10 terms of this AP.
51. The median of the following frequency distribution is 28.5 and the total frequency is 60. Find the missing frequencies  $x$  and  $y$ .

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	5	$x$	20	15	$y$	5

52. Find the mean of the following data by all these methods.

Class	50 – 70	70 – 90	90 – 110	110 – 130	130 – 150	150 – 170
Frequency	10	18	7	6	5	4

53. A card is selected at random from a well shuffled pack of 52 cards. Find the probability that the selected card is (a) a seven (2) that of spades (3) that of a black suit (4) not a king (5) the queen of hearts.
54. Cards marked with numbers 13, 14, 15, ..., 60 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that the number on the card drawn is (1) divisible by 5 (2) a perfect square.



**Total Marks 80**

**Section -A**

**(24)**

\* **Answer the following as per the instructions given : [Q. nos. 1 to 24-1 mark each]**

\* **Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)**

1.  $a - b = 2$  and  $a + b = 4$ , then  $a = \underline{\hspace{2cm}}$  &  $b = \underline{\hspace{2cm}}$ .  
 (A) (3, 1)                      (B) (1, 3)                      (C) (-3, 1)                      (D) (3, -1)
2.  $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}} = \underline{\hspace{2cm}}$ .  
 (A) 4                              (B) 3                              (C) -2                              (D) 3.5
3. Find the sum to  $n$  terms of the AP, whose  $n^{\text{th}}$  term is  $5n + 1$ .  
 (A)  $\frac{n}{2}$                               (B)  $\frac{n}{2}(7 + 4n)$                       (C)  $\frac{n}{2}(7 + 5n)$                       (D)  $\frac{n}{3}$
4. P(2, 4), Q(0, 3), R(3, 6), S(5, y) are the vertices of parallelogram PQRS, then by  $y = \underline{\hspace{2cm}}$ .  
 (A) 7                              (B) 5                              (C) -7                              (D) -8
5.  $(1 + \tan^2 \theta)(1 - \cos^2 \theta) = \underline{\hspace{2cm}}$ .  
 (A)  $\operatorname{cosec}^2 \theta$                       (B)  $\tan \theta$                       (C)  $\cot \theta$                       (D)  $\tan^2 \theta$
6. If the median of the observations arranged in the ascending order as 6, 7,  $x - 2$ ,  $x$ , 17, 20 is 16 then  $x = \underline{\hspace{2cm}}$ .  
 (A) 15                              (B) 16                              (C) 17                              (D) 18

\* **Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)**

7.  $2520 = 3^3 \times 3^p \times q \times 7$ , then  $p = \underline{\hspace{2cm}}$  and  $q = \underline{\hspace{2cm}}$ .                      [(2, 5), (5, 2), (1, 2)]
8. If 5 is one of the zero of  $P(x) = x^3 - 6x^2 + ax + 10$ , then  $a = \underline{\hspace{2cm}}$ . (4, 5, 3)
9. If  $P(A) : P(\bar{A}) = 2 : 7$ , then  $P(\bar{A}) = \underline{\hspace{2cm}}$ .  $(\frac{1}{9}, \frac{2}{3}, \frac{2}{9})$
10. If  $\sin \alpha = \frac{1}{2}$ ,  $\cos \alpha = \frac{1}{2}$ , then  $\alpha + \beta = \underline{\hspace{2cm}}$ .                       $(0^\circ, 30^\circ, 90^\circ)$
11. Point P lies on a circle with centre O and radius 11 cm point A on the tangent through P lies 61 cm away from the centre O, then  $PA = \underline{\hspace{2cm}}$ .                      (60 cm, 30 cm, 10 cm)
12. The mean of the distribution is 2.6, then  $y = \underline{\hspace{2cm}}$ .                      (3, 8, 10)

x	1	2	3	4	5
f	4	5	y	1	2

\* **State whether the following statements are true or false : (Q. nos. 13 to 16)**

13.  $\text{HCF}(32, 81) = 1$ .
14. 7 is one of the zero of  $P(x) = x^2 - 8x + 12$ , then  $K = 77$ .

15. The graph of  $4x + 7y = 0$  is a line passing through origin.
16. For any event A,  $P(A)$  is always greater than  $P(\bar{A})$ .
- \* **Answer the following by a number or a word or a sentence : (Q. nos. 17 to 20)**
17. What will be the graph of the  $P(x) = 6x - x^2 + 7$ .
18. Point P lies on a circle with centre O and A is a point on tangent through P.  $PA = 7$  cm,  $OA = 25$  cm. Find d.
19. Find the probability of scoring 30 marks in a 40 mark test.
20. If the median of the observations 8, 12, 17, x, 25, 28 is 20. Find x.

\* **Match the following : (Q. Nos. 21 to 24) (04)**

- | "A"                      | "B"  |
|--------------------------|--|
| 21. length of minor Arc  | (a) $2\pi r$                                 |
| 22. Area of circle       | (b) $\frac{\theta}{360^\circ} \times 2\pi r$ |
|                          | (c) $\pi r^2$                                |
| "A"                      | "B"  |
| 23. TSA of cylinder      | (a) $\pi r^2 h$                              |
| 24. Volume of hemisphere | (b) $\frac{2}{3} \pi r^3$                    |
|                          | (c) $2\pi r (h + r)$                         |

**Section -B (18)**

\* **Solve any 9 questions from the following 13 questions : (Q. nos. 25 to 37 -2 marks each)**

25. Find a quadratic polynomial whose  $sz = \frac{-3}{2\sqrt{5}}$   $pz = -\frac{1}{2}$ .
26. Find a quadratic polynomial whose  $sz = \frac{7}{6}$   $pz = \frac{1}{3}$ .
27. Find the roots by factorizing method  $\sqrt{2}x^2 + 7x + 5\sqrt{2} = 0$ .
28. 10<sup>th</sup> & 16<sup>th</sup> terms of AP are 52 & 82 respectively. Find n<sup>th</sup> term.
29. The sum of how many terms of an AP 8, 15, 22, .... is 1490 ?
30. The distance between the points A(a, 2) & B(3, -5) is  $\sqrt{53}$ , find the value of a.
31. Find the ratio in which x axis divides A(1, 2) & B(4, -5) from the point A.
32. If  $\sin \theta = \frac{11}{15}$ , find all the other 5 T-ratio.
33. Find the value of x.  $\sin 2x = \sin 60^\circ \cos 30^\circ - \cos 60^\circ \sin 30^\circ$ .



34. Notching from the top of a 30 m high tower, the angle of depression of a stone lying on the ground is to be  $45^\circ$ . Find the distance of the stone from tower.
35. The base of a cone with radius 15 cm and slant height 25 cm is hemispherical. Find the volume of this solid ( $\pi = 3.14$ ).
36. 6 wooden cubes of length 3 cm are arranged in a row touching each other. Find TSA of solid.
37. Find the mode :

Class	0 – 100	100 – 200	200 – 300	300 – 400	400 – 500	500 – 600
Frequency	7	25	37	13	12	10

**Section -C**

**(18)**

- \* **Answer any 6 questions from the following 9 questions as asked with calculations :  
(Q. nos. 38 to 46 -3 marks each)**

38. Solve by substitution method :  $3x - y = 9$ ,  $3x + 3y = 17$ .
39. Solve the equation  $53x - 47y = 118$ ,  $47x - 53y = 82$ .
40. Find the no. of terms : 3, 6, 9, ....., 111.
41. 3 vertices of parallelogram ABCD are A(1, 2), B(2, 4), C(5, 9). Find 4<sup>th</sup> vertex D.
42. Point P(3, b) divides the line segment AB A(1, 2), B(4, 5) in the ratio 2 : 1. Find the value of b.
43. The tangent at any point of a circle is perpendicular to the radius through the point of contact.
44. AB is tangent to a circle with centre P and B is a point of contact. PA intersects the circle at C. If AB = 15 cm and AC = 9 cm,. Find radius.
45. Find Median :

Class	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45
<i>f</i>	5	6	15	10	5	4	2	2

46. There are 5 red, 8 white, 4 green balls in a box. A ball is randomly selected find the probability (1) red, (2) white, (3) not green

**Section -D****(20)**

\* **Answer any 5 questions from the following 8 questions as asked with calculations :  
(Q. nos. 47 to 54 -4 marks each)**

47. Prove converse of BPT theorem.

48. The made of the data is 33.33 and the total frequency is 100.

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	7	12	x	28	y	9

Find the missing frequency x & y.

49. If the usual speed of a train is increased by 5 KM/h. It takes 48min. less than the usual time to cover a distance of 360 km. Find usual speed of train.

50. A person save certain sum every year. The sum saved in any year is Rs. 100 more than the sum saved in the previous year. If his total of 10 years is Rs. 16500. Find the sum saved by him in the first year.

51. The median of the following data is 50. Find the value of P & Q. If the sum of all the frequency is 90.

Marks	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90
Frequency	P	15	25	20	Q	8	10

52. The mean of the following distribution of 125 observation is 22.12.

Class	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44
Frequency	3	8	12	x	35	21	y	6	2

Find the missing frequencies.

53. Two dice are thrown once. Find the probability that the sum of no. on two dice is  
(1) 8 (2) grater than 9 (3) Prime no. (4) Smaller than 5.

54.

Marks	20	25	28	29	33	38	42	43
No. of Student	6	20	24	28	15	4	2	1

(1) Find the probability of the students getting more than 40 marks.

(2) Find the probability of the students getting less than 30 marks.

Total Marks 80

Section – A

(24)

\* Answer the following as per the instructions given : [Q. nos. 1 to 24-1 mark each]

\* Select the most appropriate answer from the given alternatives : (Q. nos. 1 to 6)

1. Arya has contain coins of Rs. 1 and certain coins of Rs. 2. She has 50 coins in all and total value of these coins is Rs. 75. Then number of Rs. 1 coins and Rs. 2 coins with her are \_\_\_\_\_ respectively.

- (A) 35 and 15      (B) 35 and 30      (C) 15 and 35      (D) 25 and 25

2. The formula to find the dicriminant of a equation is \_\_\_\_\_ .

- (A)  $D = b^2 - 4ac$       (B)  $D = b^2 + 4ac$       (C)  $D = b^2 - 2ac$       (D)  $D = b^2 + 2ac$

3. The 4th term from the last term of the finite AP – 11, – 8, – 5, ....., 49 is \_\_\_\_\_ .

- (A) 37      (B) 40      (C) 43      (D) 58

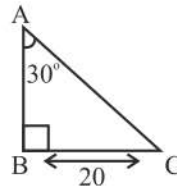
4. The perpendicular distance of the point (– 3, 8) from the y-axis is \_\_\_\_\_ .

- (A) 3      (B) 8      (C) 11      (D) 5

5. For the given figure  $BC = 20$  cm and  $\angle A = 30^\circ$ , then  $AB =$  \_\_\_\_\_ cm and  $AC =$  \_\_\_\_\_ cm.

- (A)  $20\sqrt{3}, 40$       (B)  $40, 20\sqrt{3}$

- (C)  $\frac{20}{\sqrt{3}}, 40$       (D)  $40, \frac{20}{\sqrt{3}}$



6. Mode – mean = \_\_\_\_\_  $\times$  (median – mean)

- (A) 2      (B) 4      (C) 3      (D) 6

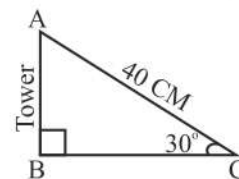
\* Fill in the blanks so as to make each of the following statements true by selecting the proper alternative from those given in the brackets : (Q nos. 7 to 12)

7. Two positive integer a and b are expressed as  $a = x^3y^2$  and  $b = x^2y^5$ , where x and y are prime numbers, then,  $HCF(a, b) =$  \_\_\_\_\_ .  
( $x^2y^2, x^3y, xy$ )

8. The product of two consecutive positive even integers is 224. Then, integers are \_\_\_\_\_ .  
[(14,16), (2, 8), (2, 10)]

9. The probability of the month of January having 5 Sunday is \_\_\_\_\_ .  
 $(\frac{3}{5}, \frac{3}{7}, \frac{3}{4})$

10. The height of tower AB in the given figure is \_\_\_\_\_ .  
(20, 30, 10)



11. A circle has a number of tangents equal to \_\_\_\_\_ . (0, 1, infinite)



12. For a given frequency distribution if  $\sum f_i x_i = 245$  and  $\sum f_i = 100$  then  $\bar{x} = \underline{\hspace{2cm}}$ .  
(2.45, 24.5, 22.5)

\* **State whether the following statements are true or false : (Q. nos. 13 to 16)**

13.  $(9 + \sqrt{5})(9 - \sqrt{5})$  is an irrational number.

14. The sum of the zeroes of the quadratic polynomial  $3x^2 + 5x - 2$  is  $\frac{5}{3}$ .

15. The graphs of equations  $7x + 10y = 16$  and  $3x - \frac{30}{7}y = \frac{48}{7}$  are coincident lines.

16. The probability of the sum rising in the west is  $-1$ .

\* **Answer the following by a number or a word or a sentence : (Q. nos. 17 to 20)**

17. For a given AP, its  $n^{\text{th}}$  term is given by  $a_n = 6n + 11$ , so  $s_n = ?$

18. The common point between a circle and a tangent to the circles is called what ?

19. The probability of getting of defective shirt in a lot of 400 shirts is 0.035. Find the number of defective shirts.

20. Find the mean of first 19 natural numbers.

\* **Match the following : (Q. Nos. 21 to 24) (04)**

"A"

"B"

21. C.S.A. of cylinder

(a)  $\frac{1}{3}\pi r^2 h$

22. Volume of a cone

(b)  $4\pi r$

(c)  $2\pi rh$

"A"

"B"

23. Area of minor sector

(a)  $\frac{\pi r^2 \theta}{180}$

24. Circumference of circle

(b)  $2\pi r$

(c)  $\frac{\pi r^2 \theta}{360}$

**Section -B (18)**

\* **Solve any 9 questions from the following 13 questions : (Q. nos. 25 to 37 -2 marks each)**

25. Find the nature of the roots of the following quadratic equation. If the real roots exist, find then  $3x^2 - 4\sqrt{3}x + 4 = 0$ .

26. Find the quadratic polynomial whose sum and product of its zeroes given respectively

$\left(\frac{1}{4}, -1\right)$ .

27. Find the quadratic polynomial with the given numbers is the sum and product of its zeroes respectively.  $(\sqrt{2}, \frac{1}{3})$
28. Find the sum of first 30 terms of the AP 16, 6, -4, \_\_\_\_\_ .
29. Find the 20th term from the last term of the AP : 3, 8, 13, ..... ,  $2\sqrt{3}$  .
30. Find a relation between x and y such that the point (x, y) is equidistant from the point (3, 6) and (-3, 4).
31. Find the point on the y-axis which is equidistant from the points P(6, 5) and Q(-4, 3).
32. Find the value of  $2\cot^2 45^\circ + \sin^2 30^\circ - \cos^2 60^\circ$  .
33. If  $\tan(A + B) = \sqrt{3}$  and  $\tan(A - B) = \frac{1}{\sqrt{3}}$ ;  $0^\circ < A + B \leq 90^\circ$ ;  $A > B$  ; find A and B.
34. The angle of elevation of the top of a tower from a point on the ground, which is 30 cm away from the foot of the tower is  $30^\circ$ , find the height of the tower.
35. The edge of a cube is 5 cm, then find the total surface area of cube.
36. The radius and the height of a cylinder are equal. If the radius of the cylinder is 7 cm, find its volume.
37. Marks obtained, out of 50, by 100 students in a test are given in the frequency table given below, find the median of the data.

Marks obtained	20	29	28	33	42	43	25
No. of Student (frequency)	6	28	24	15	2	1	20

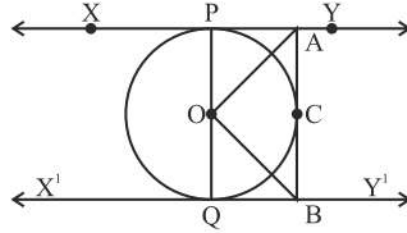
### Section -C

(18)

- \* **Answer any 6 questions from the following 9 questions as asked with calculations : (Q. nos. 38 to 46 -3 marks each)**
38. Solve  $2x + 3y = 11$  and  $2x - 4y = -24$  and have find the value of 'm' for which  $y = mx + 3$ .
39. Solve the linear pair of equations by elimination method  $2x + 3y = 46$  and  $3x + 5y = 74$ .
40. Show that  $a_1, a_2, \dots, a_n$  ..... from an AP where an is defined as below :  
(i)  $a_n = 3 + 4n$  (ii)  $a_n = 9 - 5n$ . Also find the sum of the first 15 terms in each case.
41. In what ratio does the point (-4, 6) divide the line segment the points A(-6, 10) and B(3, -8) ?
42. If Q(0, 1) is equidistant from P(5, -3) and R(x, 6), find the values of x. Also find the distances QR and PR.

43. Prove that the tangent at any point of a circle is perpendicular to the radius through the point of contact.

44. In figure XY and X'Y' are two parallel tangents to a circle with centre O and another tangent AB with point of contact C intersecting XY at A and X'Y' at B. Prove that  $\angle AOB = 90^\circ$ .



45. The following distribution shows the daily pocket allowance of children of a locality. The mean pocket allowance is Rs. 18. Find the missing frequency f.

Daily pocket allowance	11 – 13	13 – 15	15 – 17	17 – 19	19 – 21	21 – 23	23 – 25
No. of Children	7	6	9	13	f	5	4

46. A die is thrown once find the probability of getting (i) A prime number (ii) a number lying between 2 and 6 (iii) an odd number.

**Section –D** **(20)**

\* **Answer any 5 questions from the following 8 questions as asked with calculations : (Q. nos. 47 to 54 –4 marks each)**

47. State and prove that converse of Basic proportionality theorem.
48. State and prove AAA criteria of similarity.
49. In a right angle triangle, the hypotenuse is 6 cm longer than twice the smaller side. The third side of the triangle is 2 cm shorter than the hypotenuse. Find all the sides.
50. If the sum of first n terms of an AP is  $4n - n^2$ . Obtain an AP and also find the sum of first 15 terms.
51. Find mean by any 2 methods :

Class	0 – 6	6 – 10	10 – 14	14 – 20	20 – 28	28 – 38	38 – 40
Frequency	11	10	7	4	4	3	1

52. Find the mode & median.

Class	118 – 126	127 – 135	136 – 144	145 – 153	154 – 162	163 – 171
Frequency	3	5	9	12	5	4

53. Two coins are tossed. Find the probability of getting  
 (1) 1 head (2) 2 head (3) at least one head (4) no head.
54. A card is selected from a 52 cards. Find the probability that the selected card is  
 (1) a seven (2) not a king (3) queen of diamond.



Total Marks 80

Section – A

- \* Read the following passages and select the most appropriate answers for the questions given below them : (02)

The baker or bread-seller of those days had a peculiar dress known as the *kabai*. It was a single-piece long frock reaching down to the knees. In our childhood we saw bakers wearing a shirt and trousers which were shorter than full-length ones and longer than half pants. Even today anyone who wears a half pant which reaches just below the knees invites the comment that he is dressed like a pader :

1. A single-piece long frock that the baker wore was known as .....  
(A) trouser (B) kabai (C) pader (D) half pant
2. The kabai can be compared to a .....  
(A) kurta (B) salwar (C) gown (D) overcoat

- \* Read the following passage and answer the questions : (03)

At twelve, he was sent away for schooling in the Hindu sacred scriptures and four years later he returned home to marry a princess. They had a son and lived for ten years as befitted royalty. At about the age of twenty-five, the Prince, heretofore shielded from the sufferings of the world. While coming out of hunting chanced upon a sick man, then an aged man, then a funeral procession, and finally a monk begging for alms. These sights so moved him that he at once became a begger and went out into the world to seek enlightenment concerning the sorrows he had witnessed. He wandered for seven years and finally sat down under a fig tree. Where he vowed to stay until enlightenment came. Enlightened after seven days., he renamed the tree the Bodhi Tree (Tree of Wisdom) and began to teach and to share his new understandings.

Questions :

3. Where was the Prince sent away at his age of twelve ? Why ?
4. Which sights along the way moved the Prince ?
5. What did he do after witnessing the sights of sufferings ?

- \* Fill in the blanks choosing the correct words given in the brackets :

(Write only the answer)

(05)

(elaborate, street, watching, enjoyable, unusual)

But for Valli, standing at the front door was every bit as 6 as any of the 7 games other children played. 8 the 9 gave her many new 10 Experiences.

- \* **Answer any three of the following questions in five to six sentences each : (06)**
11. Justify the title of the play 'The Proposal'.
  12. Why does the conductor call Valli as 'madam' ?
  13. What happened when the box was opened ?
  14. What are the elders in Goa nostalgic about ?
  15. Describe the first flight of the young seagull.

### Section – B

- \* **Read the following verses and answer the questions given below : (03)**

The true Chameleon is small,  
 A lizard sort of things;  
 He hasn't any ears at all,  
 And not a single wing.  
 If there is nothing on the tree,  
 "This the Chameleon you see.

#### Questions :

16. What does a chameleon look like ?
17. What does the chameleon not have ?
18. Where can a chameleon like a lizard.

- \* **Select the correct figures of speech from the options given below : (02)**

19. "The trees inside are moving out into the forest".  
 (A) Hyperbole (B) Apostrophe (C) Personification (D) Litotes
20. 'Mustard is as brave as a tiger in a range'.  
 (A) Repetition (B) Alliteration (C) Simile (D) Metaphor

- \* **Answer any three of the following questions in five to six sentences each : (06)**

21. How does Robert Frost caution the common man ?
22. Give the central idea of the poem 'The Ball Poem'.
23. 'All night the roots work'. How do the roots work ?
24. Describe the fight between the dragon and the pirate.
25. What does the poet compare the branches of trees to ?

- \* **Read the following verse and answer the questions given below : (03)**

He escaped easily enough from the boys who followed his footprints in London.  
 But his adventures were by no means over. He had chosen a bad time of the year to wander about London without clothes. It was mid-winter. The air was bitterly cold and he could not do without clothes. Instead of walking about the streets he decided to slip into a big London store for warmth.



Closing time arrived. and as soon as the doors were shut Griffin was able to give himself the pleasure of clothing and feeding himself without regard to expense. He broke open boxes and wrappers and fitted himself out with warm clothes. Soon, with shoes. an overcoat and a wide-brimmed hat, he became a fully dressed and visible person. In the kitchen of the restaurant he found cold meat and coffee. and he followed up the meal with sweets and wine taken from the grocery store. Finally he settled down to sleep on a pile of quilts.

Questions :

26. Why did Griffin decide to slip into a big London store ?
27. When was Griffin able to give himself the pleasure of clothing and feeding himself ?
28. How did Griffin clothe and feed himself in the store ?

\* **Read the following passage and answer the questions :** (02)

One Sunday as she was taking a walk in the Champs-Flysees to rid herself of the cares of the week, she suddenly perceived a woman walking with a child. It was Mme Forestier, still young. still pretty. still attractive. Mme Loisel was affected. Should she speak to her ? Yes, certainly. And now that she had paid, she would tell her all. Why not ?

She approached her, "Good morning Jeanne."

Her friend did not recognise her and was astonished to be so familiarly addressed by this common personage. She stammered, "But, Madame – I do not know – you must be mistaken -"

"No, I am Matilda Loisel."

Her friend uttered a cry of astonishment, "Oh! my poor Matilda! How you have changed !"

Questions :

29. Why was Mme Loisel affected to see Mme Forestier ?
30. Why couldn't Mme Forestier not recognise her friend Matilda Loisel ?

### Section – C

\* **Rectify the erros in each of the following lines as shown in the example :** (04)

	Error	Correction
31. And all the mourning	_____	_____
32. The hole family had walked	_____	_____
33. About in the big Plateau	_____	_____
34. Midway down a opposite cliff tauning him.	_____	_____



\* **Punctuate the following passage appropriately : (Que. 35 to 38) (02)**

What faith I wish I had the faith of the man who wrote this letter. Starting up a correspondence with God.

**(39) Fill in the blanks using article(s), conjunction(s) and preposition(s) : (04)**

(and, but, about, the)

I cant bring myself to talk \_\_\_(39)\_\_\_ anything \_\_\_(40)\_\_\_ ordinary everyday things. We don't seem to be able to get any closer, \_\_\_(41)\_\_\_ that's \_\_\_(42)\_\_\_ problem.

**(43) Convert the following into Indirect form of narration : (03)**

"This is the second-flush or sprouting period, itsnt it, Mr. Barua "" sprouting period, isn't it, Mr. Barua ?" Rajvir asked. "It lasts from My to july and yields the best Tea."

"You seem to have done your homework before coming." Pranjol's father said in surprise.

\* **Do as directed : (05)**

44. It doesn't matter. (Turn into Affirmative)  
(A) It does matter (B) It hardly matters. (C) It is OK. (D) It matters.
45. What a supreme luxury it is ! (Turn into Assertive)  
(A) It is really a supreme luxur (B) It is a really supreme luxury.  
(C) It is very a supreme luxury. (D) It is supreme luxury.
46. Yamini could not bear the insult. (Select the correct Positive voice)  
(A) The insult was not borne by Yamini.  
(B) The insult could not be born by Yamini.  
(C) The insult could not be borne by Yamini.  
(D) The insult could not be borne by Yamini.
47. Water drips from a leaking drainpipe. (Turn into Complex)  
(A) Water drips and a drainpipe leaks.  
(B) When water drips a dranpipe leaks.  
(C) When a drainpipe leaks, water drips.  
(D) Water drips from a drainpipe which is leaking.
48. I am goind to walk where I like. (Turn into Simple)  
(A) I am going to walk the places of my interest.  
(B) I am going to walk as it suits to me.  
(C) I like certain places and I walk there.  
(D) The places that I like are chosen by me for my walk.

\* **Read the following passage and answer the questions given below : (04)**

She dwelt among the untrodden ways  
Beside the springs of Dove,

A maid whom there were none to praise

And very few to love :

A violet by a mossy stone

Half hidden from the eye !

- Fair as a star, when only one

Is shining in the sky.

She lived unknown, and few could know

When Lucy ceased to be;

But she is in her grave, and, oh,

The difference to me !

Questions :

49. Who dwelt among the untrodden way ?

50. Where the untrodden ways were ?

51. -Fair as a star, when only one is shining in the sky. Which figures of speech is mentioned in the given line ?

52. To whom does Lucy's death make a difference ?

**OR**

\* **Read the following poem and answer the questions given below :**

Weavers, weaving at break of day,

Why do you weave a garment so gay ?

Blue as the wing of a bluebird wild,

We weave the robes of a new-born child.

Weavers, weaving at fall of night.

Why do you weave a garment so bright ?

Like the plumes of a peacock, purple and green,

We weave the marriage-veils of a queen.

Weavers, weaving solemn and still,

What do you weave in the moonlight chill ?

White as a feather and white as a cloud,

We weave a dead man's funeral shroud.

Questions :

49. What do the weavers do in the early morning ?

50. Whom does the poet address in the poem ?

51. What do the weavers weave in the chilly moonlight ?

52. Which three stages of life are mentioned in the poem ?

**(53) Write a diary entry about how you enjoyed your birthday celebration in about 100 to 120 words : (04)**

**OR**

**(53) You had visited an old age home. Write at least four dialogues with an elderly people three :**

**(54) Draft an advertisement inviting young and old people to be members of a library that you have set up with an impressive collection of books : (04)**

**OR**

**(54) You are the Secretary of the cultural club of your school. An online quiz competition is to be held in your school. Write a notice for the same.**

**OR**

**(54) Design a poster for spreading awareness on the dangers of using tobacco. Prepare a slogan also :**

**Section – E**

**(55) You visited a science fair in your school. Write a report based on your observation : (04)**

**(56) Write a letter to your friend who just met with an accident informing him about his speedy recovery in a consoling tone. You are Manasvi / Manas : (06)**

**OR**

**(56) Your friend wastes a lot of time on the internet visiting sites that are related to horoscopes and numerology. Write an e-mail advising him not to do so :**

**(57) Write an essay on any one of the following in about 200 words : (08)**

**(1) Hard work has no option :**

[importance of hard work – benefits of hard work – your opinion]

**(2) Social media :**

[Introduction – benefits – draw – backs – conclusion]

**OR**

**(57) Write a story in 150 – 200 words based on the inputs given below with a suitable title and moral :**

Points : A girl playing in the garden – saw an unusual bird – went near the bird and .....



Total Marks 80

Section -A

- \* **Read the following passages and select the most appropriate answers for the questions given below them :** (02)

She was eight years old and very curious about things. Her favourite pastime was standing in the front doorway of her house, watching what was happening in the street outside. There were no playmates of her own age on her street, and this was about all she had to do.

Questions :

- (1) Who was she ?  
 (a) Vallikkannan (b) Valli Sundaram (c) valliammai (d) valli laxman
- (2) What was her favorite past time ?  
 (a) standing in the doorway of the house  
 (b) playing games with her friend  
 (c) watching the happening in the street outside  
 (d) watching the street children play.

- \* **Read the following passage and answer the questions :** (03)

The climb ro be Brahmagiri hills brings you in to a panoramic view of the entire misty landscape of Coorg. A walk across the rope bridge leads to the sixty-four-acre island of Nisargadhama. Running into Buddhist monks from Indi's largest Tibetan settlement, at nearby Nylakuppe, is a bonus.

Questions:

- (3) What is meant by 'panoramic view' ?  
 (4) How does one reach the island of Nisargdhama ?  
 (5) What would be agift at Nisargadhama ?

- \* **Fill in the blanks choosing the correct words given in the bracket and write only the answer :** (05)

(laughing, helped, showed, known, postman)

One of the employees, who was a 6 and also 7 at the post office, went to his boss 8 heartly and 9 him letter to god. Never in his carrer as a postman had 10 that address.

- \* **Answer anythree of the following questions in five to six sentences each : (06)**
11. Describe the effect of the policy of apartheid on the people of South Africa.
  12. What made Mr. Keating allow Anne to talk in class ?
  13. What happened when the box was opened on the flight ?
  14. The animals you are likely to see in Coorg ?
  15. How was Mij to be transported to England ?

### Section -B

- \* **Read the following verse and answer the questions given below : (03)**

The way a crow  
Shook down on me  
The dust of snow  
From a hemlock tree  
Has given my heart  
A change of mood  
And saved some part  
Of a day I had rued.

Questions :

16. What change does the poet talk about ?
  17. Whose part of the day has been saved ?
  18. Who shook down on the poet ?
- \* **Select the correct figure of speech from the options given below : (02)**
19. He hears the last voice at night the following cars.  
(a) metaphor (b) transferred Epithet  
(c) Oxymoron (d) Epigram
  20. Belinda was as brave as a bared full of bears.  
(a) litotes (b) simile (c) Metaphor (d) Anastrophe
- \* **Answer anythree of the following questions in five to six sentences each : (06)**
21. What colour is the young woman's hair ? What does she say can change it to ? Why would she want to do so ?
  22. What does the ball teach the boy which the ball was lost ?
  23. Give the central idea of the poem 'Dust of Snow'.
  24. According to John Berryman what does in the world of possessions mean ?
  25. What could Amanda do if she were a mermaid.

\* **Read the following passage and answer the questions :** **(03)**

I was really worried about Trick this time. I had pulled up my car when I saw him in the street with his mistress and I was shocked at his appearance. He had become hugely fat, like a bloated sausage with a leg at each corner. He eyes, bloodshot and having, started straight a head and his tongue rolled from his jaws.

Mrs. Pumphrey hastened to explain, "He was so listless, Mr. Herriot. He seemed to have no energy. I thought he must be suffering from matutrition. So I have been giving him some little extras between meals to build him up some malt and cod-liver oil and bowl of Horlicks at night to make him sleep-nothing much to realty.

Questions :

26. What did Ms. Pumphrey explain about his health ?
27. With whom did the narrator compare Tricki's fatness ?
28. What little extras did Mrs. Pupphey's give to Tricki ?

\* **Read the following passage and answer the questions :** **(02)**

All of a sudden Mrs. Hall heard a stiff close to her ears. A moment sates hate on the bed post leapt up and dashed itself into her face. Then the bedroom chair become alive. Springing into the air it charged straight at her, legs foremost. As she and her husband turned away in terror, the extra ordinary chair pushed them about both out of the room and then appeared to slam and lock the door after them.

Questions:

29. What did Mrs. Hall hear close to her ear ?
30. Who pushed Mr. & Mrs. Hall out of the room ?

### Section -C

\* **Rectify the errors in the given passage :** **(04)**

	Error	Correction
31. Mij was out of a box	_____	_____
32. In a flash, He disappear	_____	_____
33. With high speed down the aircraft	_____	_____
34. There was squawks and shrieks	_____	_____

\* **Puctuate the following passage appropriately: (Question nos. 35 to 38)** **(02)**

May we start now madam the conductor asked smiling.



\* **Fill in the blanks with proper article(s), conjunction(s) and preposition(s) :** (04)

The wind rushed 39 his breast feathers. 40 under his stomach, and against the wings, He could feel the tips of his wings cutting 41 the air. He was falling headlong now. He was soaring gradually upwards and 42 .

(43) **Convert the following into Indirect form of narration :** (03)

Chubukov : Why are you so formal ?

What's the occasion ? Why the evening dress, gloves, and so on all that. Are you going somewhere ?

Lomov : No, I've come only to see you, honoured Stepan Stepanovitch.

\* **Do as directed :** (05)

44. The news is so good that it cannot be true. (write the sentence using 'too')

- (a) the news is too good to be true
- (b) the news is too good that it has to be true.
- (c) The news was too good that it has to be true
- (d) the news is very good to be true.

45. Dwarfing the tiny tea plants were tall sturdy shade trees. (make it complex)

- (a) Dwarfing the tiny tea plants though there were tall sturdy trees.
- (b) If there were tall sturdy shade trees dwarfing the tiny tea plants.
- (c) There were tall sturdy shade trees which were dwarfing the tiny tea plants.
- (d) There were tall sturdy shade trees who were dwarfing the tiny tea plants.

46. I ought to lead a quiet and regular life. (passive voice)

- (a) A quiet and regular life have to be led by me.
- (b) A quiet and regular life ought to have led by me.
- (c) A quiet and regular life ought to be led by me.
- (d) A quiet and regular life ought be led by me.

47. Mijbil escaped from my bedroom as I entered it. (use no sooner)

- (a) No sooner did Mijbil escaped from my bedroom than I entered it.
- (b) No sooner did I enter the bedroom than Mijbil escaped from it.
- (c) No sooner did I enter the bedroom.
- (d) No sooner did Mijbil escaped from my bedroom than I entered it.

48. I am travelling alone. (Choose the correct interrogative)
- (a) Am I travelling alone ? (b) Aren't I travelling alone ?
- (c) Ain't I travel alone ? (d) Are I travelling aloing ?

**Section -D**

\* **Read the following passage and answer the questions given below :** (04)

Speech is a great blessing, but it can also be a great curse, for, while it helps up to make our intentions and desires known to our fellows, it can also if we use it carelessly, make our attitude completely misunderstood. A slip of the tongue, the use of an unusual or an ambiguous word, and so on, may create an enemy where we had hoped to win a friend. Again, different classes of people use different vocabularies, and the ordinary speech of an educated man may strike an uneducated listener as showing pride. Unwittingly we may use a word which bears a different meaning for our listener from what it does to men fo our own class. Thus speech is not a gift to use lightly without thought, but one which demands careful handling; only a fool will express himself alike to all kinds and conditions of men.

49. What is the function of speech ?
50. How does speech create enemies ?
51. How does an educated man's speech appear to an illiterate ?
52. How does a fool utilize the blessing of speech ?

**OR**

\* **Read the following verse and answer the questions given below :**

A welcome breath of fresh air comes from trees.  
A patch of green that soothes the eyes comes from trees.  
So does a little shade to rest a weary leg.  
Trees do all they can to give us their best.  
And yet we give them our worst,  
We let these life- gives be hacked down.  
Think about it. To either have a beautiful piece of greenery  
Or a jutting out of concrete is entirely your choice.

Questions :

49. What does man do to trees ?
50. What will we have in place of a beautiful piece of greenery, if we go on cutting down trees ?
51. How do trees give us their best ?
52. What does man need to think about ?



(53) You were on a trip to visit Kerala. You spent a day in train and had to navigate through Ahmedabad to reach Kochin. Make at least two diary entries of this trip : (04)

OR

(53) On your visit to Rameshwaram you met a saint in train. Write at least four dialogues sharing your life experience :

(54) Your school is on a campaign to 'Blood Donation Camp' around its vicinity. Design an advertisement regarding it : (04)

OR

(54) Design a poster for spreading awareness regarding the points highlighting prevention of water pollution :

Section -E

(55) You observed a rescue operation during flood in a river in Himachal Pradesh. Write a report on your observations : (04)

(56) Your younger brother / sister is addicted to playing video games. Write an E-mail to him/her explaining the harmful effects of the same suggest some remedies : (06)

OR

(56) Write a letter to your grand parents informing about your future. Study plans after Std. 10<sup>th</sup> :

(57) Write an essay on any one of the following in about 200 words : (08)

(1) An autobiography of a soldier :

Early life – life at home – life on the front / border – incidents on the border – retirement life with family.

(2) Social Media :

[Introduction – benefits – drawbacks – conclusion]

OR

(57) Complete the story and give it a suitable title :

A girl playing in the garden saw an unusual bird – went near the bird and .....



Total Marks 80

Section -A

- \* **Read the following passages and select the most appropriate answers for the questions given below them :** (02)

I knew that the oppressor must be liberated just as surely as the oppressed. A man who takes away another man's freedom is a prisoner of hatred; he is locked behind the bars of prejudice and narrow-mindedness. I am not truly free if I am taking away someone else's freedom, just as surely as I am not free when my freedom is taken from me and the oppressor alike are robbed of their humanity.

1. Who is locked behind the bars of prejudice and narrow-mindedness ?  
(A) Oppressor (B) Oppressed (C) Both A and B (D) None of these
2. Which of the following is the adjective form of 'human' ?  
(A) Humanity (B) Humane (C) Humanly (D) Inhuman

- \* **Read the following passage and answer the questions :** (03)

Gautama Buddha (563 B.C. - 483 B.C.) began life as a prince named Siddhartha Gautama, in northern India. At twelve, he was sent away for schooling in the Hindu sacred scriptures and four years later he returned home to marry a princess. They had a son and lived for ten years as befitted royalty. At about the age of twenty-five, the Prince, heretofore shielded from the sufferings of the world, while out hunting chanced upon a sick man, then an aged man, then a funeral procession, and finally a monk begging for alms. These sights so moved him that he at once went out into the world to seek enlightenment concerning the sorrows he had witnessed. He wandered for seven years and finally sat down under a peepal tree, where he vowed to stay until enlightenment came.

3. When was Gautama Buddha sent away for schooling and when did he marry ?
4. Which sights moved Gautama Buddha ?
5. Where did he vow to stay until enlightenment came ?

- \* **Fill in the blanks choosing the correct words given in the brackets :**

**(Write only the ans)**

**(05)**

(chinks, silence, tricked, airholes, appalling)

When I returned, there was an 6 spectacle. There was complete 7 from the box, but from its 8 and 9 around the lid, blood had 10 and dried.

\* **Answer anythree of the following questions in five to six sentences each : (06)**

11. Describe the narrator's experience as he flew the aeroplane into the storm.
12. What does Anne write in her first essay ?
13. Is bread-making still popular in Goa ? How is bread an important part of Goan life ?
14. What did Valli see on her way that made her laugh ?
15. How did Natalya react when she came to know that Lomov had come to propose ?

### Section -B

\* **Read the following verses and answer the questions given below : (03)**

An ultimate shaking grief fixes the boy  
As he stands riigid, trembling, staring down  
All his young days into the harbour where  
His ball went. I would not intrude on him.  
A dime, another ball, is worthless.

Questions :

16. Explain: An ultimate shaking grief fix the boy'.
17. What comes to the boy's mind when he stares at the ball ?
18. Why is money or another ball worthless for the boy ?

\* **Select the correct figure of speech from the options given below : (02)**

19. Some say the world will end in fire  
Some say in ice  
(A) Alliteration (B) Metaphor (C) Repetition (D) All of these
20. With a clatter and a clank and a jangling squirm.  
(A) Antithesis (B) Oxymoron (C) Onomatopoeia (D) All of these

\* **Answer anythree of the following questions in five to six sentences each : (06)**

21. What is 'a hemlock tree' ? Why doesn't the poet write about a more "beautiful" tree such as a maple, or an oak, or a pine ?
22. What colour is the young woman's hair ? What does she say she can change it to ? Why would she want to do so ?
23. How does the poet describe the fog as if it were a living being ?
24. Why does the poet compare the trees with patients ?

In advance. The only way was to get Tricky out of the house for a period. I suggested that he be hospitalised for about a fortnight to be kept under observation.

25. What could Ananda do if she were a mermaid ?

\* **Read the following passage and answer the questions : (03)**

Max was slender, a little less than tall, with features that suggested slightly the crafty, pointed countenance of a fox. There was about him aside from the gun nothing especially menacing.



"The report," he murmured. "The report that is being brought to you tonight concerning some new missiles. I thought I would take it from you It will be safer in my hands than in yours."

Ausable moved to an armchair and sat down heavily. I'm going to raise the devil with the management this time, and you can bet on it." he said grimly. This is the second time in a month that somebody has got into my room through that nuisance of a balcony!" Fowler's eyes went to the single window of the room. It was an ordinary window, against which now the night was pressing blackly.

Questions:

26. What are the physical features of Max compared with ?
27. Why did Max want to take the report from Ausable ?
28. What was Ausable going to complain the management about ?

\* **Read the following passage and answer the questions :** (02)

The expected call came within a few days. Mrs Pumphrey was distraught. Tricky would eat nothing. Refused even his favourite dishes, and besides, he had bouts of vomiting. He spent all his time lying on a rug panting. Didn't want to go for walks, didn't want to do anything I had made my plans.

Questions:

29. Why was Mrs Pumphrey distraught ?
30. What plan was made by Mr Herriot to recover Tricky ?

**Section -C**

\* **Rectify the errors in the given passage :** (04)

	<b>Error</b>	<b>Correction</b>
31. During our childhood at Goa,	_____	_____
32. the baker use to be our friend,	_____	_____
33. companion or guide. He used	_____	_____
34. to come at least twice the day.	_____	_____

\* **Punctuate the following passage appropriately: (Question nos . 35 to 38)** (02)

Here Mister what is that supposed to be

\* **Fill in the blanks with proper article(s). conjunction(s) and preposition(s) :**  
**(Write only the answers)** (04)

(with, in, so, and)

\_\_\_\_\_ 39 the summer of 1941 Grabndma fell ill \_\_\_\_\_ 40 had to have an operation,  
41 my birthday passed \_\_\_\_\_ 42 little celebration.



**(43) Convert the following into Indirect form of narration : (03)**

"Won't your mother be looking for you ?" the conductor asked when he gave the girl her ticket.

"No, no one will be looking for me," she said.

**\* Do as directed : (05)**

44. Can you hear me ? (Change the Voice.)  
A. Can you be heard by me ? B. Can I be heard by you ?  
C. Could you be heard by me ? D. Could I be heard by you ?
45. The climb to the Brahmagiri hills brings you into a panoramic view.  
(Turn into Interrogative.)  
A. Don't the climb to the Brahmagiri hills brings you into a panoramic view ?  
B. Didn't the climb to the Brahmagiri hills brings you into a panoramic view ?  
C. Doesn't the climb to the Brahmagiri hills bring you into a panoramic view ?  
D. Doesn't the climb to the Brahmagiri hills brings you into a panoramic view ?
46. Is it proper for such a young person to travel alone ? (Turn into Assertive.)  
A. It isn't proper for such a young person to travel alone.  
B. It is proper for such a young person to travel alone.  
C. It wasn't proper for such a young person to travel alone.  
D. It was proper for such a young person to travel alone.
47. I am no more virtuous than the next man. (Change the Degree.)  
A. I am as virtuous as the next man. B. The next man is as virtuous as me.  
C. The next man is not as virtuous as I. D. The next man is as virtuous as I.
48. He stood in the middle of the field and said to his son. (Change into Simple.)  
A. He stood in the middle of the field saying to his son.  
B. He stood and said to his son.  
C. Standing in the middle of the field. he said to his son.  
D. He stood in the middle of the field after he said to his son.

### Section -D

**\* Read the following passage and answer the questions given below : (04)**

The brindle puppy wandered on a little further, coming to a crack in the ground which was lined with a few blades of grass and wild flowers. A trickle of water drew her attention and at this she lapped, after half choking herself before realising how to use her tongue, and then she curled up on a patch of grass which had dried in the sun and fell asleep.

It was there that Raju found her later that afternoon. He lived in a block of flats beyond the cottages and had wandered that way out of sheer curiosity and boredom.

He found the crack in the ground along which the narrow, dirty stream trickled and because there was a little bit of grass and a few flowers, he thought there might be frogs and lizards or something. When he first saw the brindle puppy he thought she was dead, but then he saw the tiny flanks heave and picked her up, his heart jumping with excitement at his find.

Questions :

49. How can you tell that the puppy was very young ?
50. What drew the attention of the little puppy ? What did she do then ?
51. How did Raju find the puppy ?
52. Why did Raju pushed the puppy inside his overcoat ?

**OR**

\* **Read the following poem and answer the questions given below :**

I lay in sorrow, in deep distress; My grief a proud man heard; His looks were cold, he gave me gold, But not a kindly word. My sorrow passed - I paid him back The gold he gave to me; Then stood erect and spoke my thanks And blessed his charity. I lay in want, and grief and pain; A poor man passed my way, He bound my head, he gave me bread, He watched me night and day. How shall I pay him back again For all he did to me ? Oh, gold is great, but greater far Is heavenly sympathy.

– Charles Mackay

Questions :

49. How did the proud man react to the poet's sorrow ?
  50. What do you mean by 'his looks were cold' ?
  51. In spite of having gold, the poor man was not happy ? Why ?
  52. The poet paid back the proud man. What does this tell you about the poet's character ?
- (53) You visited school for the blind. Write a diary entry about your experience in visiting the school. (04)**

**OR**

- (53) Dravid, who is one of your school mate has met with an accident. Write a dialogue between you and your other friend telling him about Dravid's accident.**



- (54) You are Ram/Rajni. Draft a classified advertisement in not more than 50 words to be published in India Times for the sale of a used car giving all the necessary details. (04)

OR

- (54) One of your school teachers is going to retire. Draft a notice as the secretary of the cultural committee informing the students of a farewell meeting in his/her honour.

OR

- (54) Design a poster for spreading awareness regarding the points highlighting prevention of water pollution.

Section -E

- (55) Write a report on a robbery that took place in a jewellery shop of your area. (04)
- (56) Write an e-mail congratulating your friend for having secured the first rank in the half-yearly Examination in school. (06)

OR

- (56) Write a letter to the Municipal Ward Officer of your locality complaining about the stray dog menace around your school.

- (57) Write an essay in about 200 words on anyone of the following : (08)

(1) Importance of Sports in Life

(what is sport - indoor sports - outdoor sports - different games - advantages of Sports - skills identified in a sportsman - monetary gains)

(2) The Impact of Television on Youth

(what is media - means of media – different types of channels on television - Education purpose – advertisement - advantages - disadvantages)

OR

- (57) Write a story in about 200 words based on the inputs given below :

A hot day-a Lion and a Boar came to a little spring - quarrelled as to who should drink first - a terrible fight - saw some vultures seated on a rock - waiting to feed upon their carcasses - made up their quarrel - better be friends than be eaten up by vultures - Moral.



Total Marks 80

Section – A

24 Marks

\* Answer the following questions as required .

\* Match the pairs correctly.

Section 'A'

Section 'B'

- |                                     |                     |
|-------------------------------------|---------------------|
| 1. 1 <sup>st</sup> Earth conference | (a) 1972            |
| 2. Padhaar dance                    | (b) Gulf of Kachchh |
| 3. Lothal                           | (c) 1981            |
| 4. Dugong                           | (d) Dholka          |
| 5. Used to produce steel from iron  | (e) Surendranagar   |

\* State whether the following statements are True or False :

6. The Dravidian people were natives of India.
7. The silk clothes made in Patan are known as 'Bevad-Ikt' and Patola.
8. The sipri Masjid is near Teen Darwaja in Ahmedabad.
9. Babar's sister Gulbadan Begum wrote 'Humayunnama.'
10. India is an unsecular country.

\* Fill in the blanks with correct alternative.

11. Gujarat has \_\_\_\_\_ national parks. (10,4,6)
  12. The Nagarjun Sagar Multi-purpose project is on \_\_\_\_\_ river.  
(Kaveri, Krishna, Godavari)
  13. Bio-gas is a \_\_\_\_\_ energy resource.  
(non-conventional, natural, conventional)
  14. The National Highway No. \_\_\_\_\_ is the longest highway of India. (3,8,44)
  15. Factors of production are divided into \_\_\_\_\_ parts. (three, four, five)
- \* Select the correct option from those given below each question and write the answer.
16. Which day is celebrated as the World Environment Day?  
(a) 8<sup>th</sup> March      (b) 11<sup>th</sup> June      (c) 5<sup>th</sup> June      (d) 12<sup>th</sup> March
  17. Consumer should insist on buying the products with which mark?  
(a) ISD      (b) PSI      (c) STD      (d) ISI
  18. Which year was celebrated as 'Women's Year'?  
(a) 2001      (b) 1975      (c) 1990      (d) 2002
  19. Rights are an indispensable feature of \_\_\_\_\_,  
(a) officials      (b) politics      (c) elections      (d) citizenship
  20. What should be used in place of wood to get energy?  
(a) petrol      (b) solar energy      (c) Diesel      (d) Kerosene

\* Answer the following questions in short:

21. Which is the world's largest epic?
22. Which metal is soft and heavy?

23. Who are good mountaineers as well as labourers?  
24. What is uncounted money?

**Section – B**

**18 Marks**

\* **Answer any nine questions out of thirteen question given below : [2 marks each]**

25. Evaluate the places of Gujarat having religious importance.  
26. Natural Heritage is a gift of nature. Give reason.  
27. Bead work is prominent feature of Gujarat.  
28. “Leather industry had a prominent place in ancient India.” Explain.  
29. Write a short note on “Fort of Agra”.  
30. Write a note on Taj Mahal.  
31. Write note on Henotaro.  
32. Write a note on Tidal energy.  
33. Explain Man's relation with minerals is very old & strong.  
34. Write a note on Cement Industry.  
35. Explain : Jute textile is concentrated in West Bengal.  
36. Special provisions have been made of weaker sections is constitution.  
37. Write a note on Naxalism.

**Section – C**

**18 Marks**

\* **Answer any six questions out of nine questions given below: [3 marks each]**

38. Write a note on town planning of city Harappa.  
39. Gopuram is a Unique feature of architecture of South Indian temples.  
40. Write a note on Varansi University.  
41. “Explain Soil erosion and state its remedies.  
42. Why is it necessary to conserve resources?  
43. Change is essential in the concept of sustainable development.  
44. Limited information causes consumer exploitation.  
45. Explain : Hording, smuggling , Black marketing profiteering.  
46. Explain “Abhiyam Yojna”.

**Section – D**

**20 Marks**

\* **Answer any four questions in detail given below: [4 marks each]**

47. Write a short note Astronomy and Astrology.  
48. Importance of Science & Technology.  
49. Impact of globalization on Indian Agriculture.  
50. Write note on Green Revolution.  
51. Explain unemployment & discuss its types.  
52. Explain determinant to decide poverty Line in India.  
53. Remedies to control child labour.  
54. Locate at map:  
(i) one area growing coffee  
(ii) Red Soil  
(ii) Gir National Park  
(iv) jute industry





Total Marks 80

Section – A

24 Marks

\* Answer the following questions as required .

\* Match the pairs correctly.

Section 'A'

Section 'B'

- |                      |                        |
|----------------------|------------------------|
| 1. Dravidians        | (a) Vadnagar           |
| 2. Jat community     | (b) Manipuri dance     |
| 3. Tana-Riri         | (c) Matriarchal system |
| 4. Nirmal Mehta      | (d) Kathakali dance    |
| 5. Prihviraj Chauhan | (e) embroidery work    |
|                      | (f) Chandbardai        |

\* State whether the following statements are True or False :

6. Rajtarangini is considered as first historical book of India.
7. Public property of any country or area is called universal resource.
8. In northern Plains of India, there is about 38% of ground water.
9. Profit is at the center in economic progress in socialist system.
10. Rebellion hinders the progress of a nation.

\* Fill in the blanks with correct alternative.

11. \_\_\_\_\_ made valuable contribution in the field of medical science through his work “Ashtang Hriday”. (Aryabhatta, Vagbhatta, Maharshi Patanjali)
12. Pattadakal was the capital of \_\_\_\_\_ dynasty. (chola, kushan, chalukya)
13. On Gujarat, \_\_\_\_\_ is called the Manchester of east. (Ahmedabad, Surat, Mehsana)
14. There is severe shortage of drinking water in about \_\_\_\_\_ % of towns in India.  
(40%, 7.3%, 8%)
15. First HDI report was published in \_\_\_\_\_. (1990, 1890, 1790)

\* Choose the correct option from those given below each question and write the answer:

16. How many monuments and cites are under the protection department of Archaeological Survey of India ?  
(a) 50                      (b) 500                      (c) 5000                      (d) 5050





35. Where is aluminum refining industry established ? Why ?
36. Write difference between terrorism & Rebellion.
37. "Terrorism – A global problem " – Explain.

**Section – C**

**18 Marks**

\* **Answer any six questions out of nine questions given below:**

38. Answer the following questions from the image.
  - a) Which are the 2 best temple of this architectural art ?
  - b) Which is smallest chariot temple ?
  - c) Which is the biggest chariot temple ?
39. "Gupta period is known as golden period of art" Explain.
40. Write a note on Amir Khushroo.
41. Classify the resources on the basis of ownership.
42. What is soil erosion ? How to prevent it ?
43. What is Globalization ? Write its advantages and disadvantages.
44. Clarify the role of public distribution system in control price rise.
45. Explain monetary measure as one of the factor to control price rise.
46. Who can file a complain ? Describe the information to be included in the complain ?

**Section – D**

**20 Marks**

\* **Answer any four questions in detail given below:**

47. Write a note on progress made by ancient India in the field of mathematics.
48. Discuss ancient India's progress in the field of medical and science and surgery.
49. What are the technical reforms brought in the field of agriculture ?
50. What are the industrial reforms brought in the field of agricultural ?
51. Mention steps taken by government to reduce unemployment in India (Any 4)
52. What is unemployment ? Explain its types.
53. Describe the problem of elderly people and provisions for their protection and welfare.
54. Show the following details with sign and symbol in the map
  - (i) Corbett national park
  - (ii) Area producing castor
  - (iii) Sardar Sarovar
  - (iv) Capital of electric Industry





Total Marks 80

Section – A

24 Marks

\* Answer the following questions as required .

\* Match the pairs correctly.

Section 'A'

Section 'B'

- |                                    |                             |
|------------------------------------|-----------------------------|
| 1. An ancient country of the world | (a) Bauxite                 |
| 2. Pillar of sarnath               | (b) Narayan Sarovar         |
| 3. Chinkara                        | (c) Sweden                  |
| 4. Ore of aluminium                | (d) Sculpture of four lions |
| 5. Stockholm                       | (e) China                   |
|                                    | (f) India                   |

\* State whether the following statements are True or False :

6. Upanishad literature is in dialogue form.
7. Veda means science.
8. Wool mark logo is given for gold ornaments.
9. Ralph Nader is known as the pioneer of consumer movement..
10. Terrorism is a problem of respective nation..

\* Fill in the blanks with correct alternative.

11. The \_\_\_\_\_ India is multifarious. (history, heritage, religion)
  12. The national museum is in \_\_\_\_\_. (New Delhi, Bhopal, Kolkata)
  13. There are ..... source of water. (2,3,4)
  14. The Kadana-Vanakbori multipurpose project is on \_\_\_\_\_ River. (Sabarmati, Mahisagar, Tapi)
  15. A dense network of railway is seen in Ganga plain due to \_\_\_\_\_ and dense population. (industries, intensive agriculture, canals)
- \* Choose the correct option from those given below each question and write the answer:
16. Who had addressed the world religious conference held in Chicago ?  
 (a) Swami Ramakrishna Paramhansa (b) Sami Dayanand Saraswati  
 (c) Raja Ram Mohan Ray (d) Swami Vivekananda
  17. Which is the main source of water resources on earth ?  
 (a) oceans (b) rivers (c) lakes (d) rain
  18. Of which state is Nagarjun Sagar the largest multi purpose project.  
 (a) Andhra Pradesh and Telangana (b) Tamilnadu and Karnataka  
 (c) Karnataka and Kerala (d) Odisha and Jharkhand
  19. Which of the following economic activity is included in the primary sector ?  
 (a) Textile (b) banking (c) Fishery (d) Animal Husbandry
  20. According to World Bank's 2004 report, what is the minimum per capita income in dollars for a country to be called a developing country ?  
 (a) 480 (b) 520 (c) 735 (d) 250

\* Answer the following questions in short :

21. The national Water way No. 1 is a waterway on which river ?
22. What are the major pipelines in Gujarat ?



23. What types of water ways are there in India ?
24. What type of economy can a mixed economy be called ?

**Section – B**

**18 Marks**

\* **Answer any nine questions out of thirteen question given below :**

25. Give information n about the most ancient people belonging to the Aryan race.
26. Which are things included in India's natural heritage.
27. What is the process followed in spinning ?
28. Explain the following terms :- 1) Kumin 2) Garba
29. Write a note on elephant caves.
30. Write a note on any two cultural heritage of Gujarat.
31. Write a note about the wildlife on verge of extinction.
32. Write about the classification of metallic minerals.
33. State the uses of manganese..
34. Mention centers of paper industry of Gujarat.
35. What is environmental degradation ?
36. Describe the constitutional provisions for scheduled castes provided in the constitution..
37. Suggest any 4 steps to eradicate communalism.

**Section – C**

**18 Marks**

\* **Answer any six questions out of nine questions given below:**

38. Explain the importance of architectural style of Gopuram.
39. Explain town-planning in ancient India.
40. How many vedas are there ? Which are they ? Give brief information of each.
41. What is meant by resources ? Describe its usage?
42. Explain following terms :- A) Universal Resources B) Renewable resources
43. Explain the strategy of sustainable development.
44. State the measures to control the price rise..
45. Explain the role of public distribution system in controlling the price rise.
46. Write about the HDI.

**Section – D**

**20 Marks**

\* **Answer any four questions in detail given below:**

47. Explain the chemistry as an experimental science.
48. 1) What are the distinct features of the Indian Institute.  
2) State the importance of science and technology.
49. Write a note on global market and Indian agriculture.
50. Explain in detail about any two oilseeds crops of India.
51. What are reasons for the emergence of poverty in India.
52. Discuss the measures to reduce unemployment in India.
53. Explain the reasons for more demand of child labour in India and the measures to prevent it.
54. Show the following details with sign and symbol in the map
  - (i) One area of red soil
  - (iii) One region producing wheat
  - (ii) Corbett national park
  - (iv) One center of Iron-steel industry



# ANSWER KEY

## SCIENCE

### PAPER-1

1. (C) 2.(A) 3.(C) 4.(B) 5.(D) 6.(C) 7.  $H_2SO_4$  8. Mendel 9.  $10^{-3}$  10. guard cells  
11. Diopter 12. carat 13. True 14. False 15. True 16. True 17. Involuntary actions 18. No,  
because plants in  $F_1$  generation were genetically Tt whereas plants of parent generation were TT  
19. convex mirror 20. A switch that reverse the direction of current. 21. (C) 22. (A) 23. (B) 24. (C)
- 

### PAPER-2

1. (B) 2.(D) 3.(B) 4.(B) 5.(C) 6.(C) 7. 0.02 8. Perpendicular to magnetic field  
9. Hemoglobin 10. Snail 11. 40 12. one 13. True 14. True 15. True 16. True 17. Forebrain  
18. Reptiles 19. C 20. Andre Ampere 21. (B) 22. (A) 23. (A) 24. (C)
- 

### PAPER-3

1. (C) 2.(B) 3.(A) 4.(B) 5.(A) 6.(C) 7. Copproxide 8. Sodium/Potassium 9. Vili  
10. genes 11. Concave 12.  $3.6 \times 10^6$  13. True 14. False 15. False 16. False 19.  $R_s = R_1 + R_2 + \dots + R_n$   
20. The flow of current 21. (C) 22. (B) 23. (C) 24. (A)
- 

## MATHS

### PAPER-1 (Standard)

1. (C) 2.(A) 3.(A) 4.(D) 5.(C) 6.(B) 7. (3,4) 8.  $\cot^2 \theta$  9. Same 10. 900 11.  
12. A 13. False 14. False 15. True 16. False 17. A 18. 2 19. 2520 20. A  
21. (B) 22. (A) 23. (B) 24. (A)
- 

### PAPER-2 (Standard)

1. (D) 2.(D) 3.(C) 4.(D) 5.(B) 6.(D) 7. 0.5 8.  $1:2\sqrt{2}$  9. 3 10. (a, a) 11. 30 12. 24  
13. True 14. False 15. True 16. True 17. 3 18. 3 19.  $509.14 \text{ cm}^3$  20. 40 21. (B) 22. (A)  
23. (B) 24. (C)
- 

### PAPER-3 (Standard)

1. (C) 2.(C) 3.(C) 4.(A) 5.(A) 6.(C) 7. 645 8.  $\frac{1}{5}$  9. 4 10. Infinite 11.  $90^\circ$   
12.  $-\frac{7}{2}, \frac{7}{2}$  13. True 14. True 15. True 16. True 17. -24 18. 4 19.  $\sqrt{\pi}:2$  20.  $157.14 \text{ cm}^2$   
21. (C) 22. (B) 23. (B) 24. (A)
- 

### PAPER-1 (Basic)

1. (D) 2.(B) 3.(B) 4.(B) 5.(D) 6.(C) 7. 1610 8.  $-\frac{1}{2}$  9. 0.35 10.  $\frac{3}{4}$  11. 90  
12. 22 13. True 14. True 15. True 16. False 17. -10 18. 5 19.  $\frac{6}{5}$  20. 0  
21. (B) 22. (A) 23. (C) 24. (B)



**PAPER-2 (Basic)**

1. (A) 2.(C) 3.(C) 4.(A) 5.(D) 6.(C) 7.  $P=2, q=5$  8.3 9.  $\frac{7}{9}$  10. 90 11. 60 12. 1.5  
 13. True 14.False 15.True 16. False 17.Parabola opening downwards 18. 48 19. $\frac{1}{41}$  20. 23  
 21. (B) 22. (C) 23. (C) 24.(B)

**PAPER-3 (Basic)**

1. (D) 2.(A) 3.(B) 4.(A) 5.(A) 6.(C) 7.  $x^2y^2$  8. 14 and 16 9.  $\frac{3}{7}$  10. 20 m 11. Infinite  
 12. 2.45 13.False 14.False 15.False 16. False 17.  $3n^2+14n$  18. point of contact 19. 14 20. 10  
 21. (C) 22. (A) 23.(C) 24. (B)

**ENGLISH****PAPER-1**

1. (B) 2.(C) 6.enjoyable 7.elaborate 8. watching 9.street 10. unusual 19. (C) 20. (C)  
 31. morning - morning 32.hole - whole 33. in - on 34. up - down 39. about 40. but 41.and  
 42. the 44. (B) 45. (B) 46. (C) 47. (D) 48. (A)

**PAPER-2**

1. (C) 2.(A) 6.postman 7. helped 8. layghing 9. showed 10. known 19.(B) 20. (B)  
 31. a - the 32. disappear - disappeared 33. with - at 34. was - were 39. against 40. then 41. through  
 42. downwards 44.(B) 45. (C) 46.(C) 47. (D) 48. (C)

**PAPER-3**

1. (A) 2.(B) 6.Appalling 7. Silence 8. airholes 9. chinks 10. trikled 19.(D) 20. (C) 31.at-in  
 32. use-used 33. or - and 34. The - a 39. In 40. and 41. so 42. with 44.(B) 45. (C) 46.(A)  
 47. (D) 48. (C)

**SOCIAL SCIENCE****PAPER-1**

1. (A) 2.(C) 3.(D) 4.(B) 5.(C) 6.True 7. True 8. False 9. False 10. False 11.4 12. Krishna  
 13. non-convetional 44. 44 15. 4 16. (C) 17. (D) 18. (B) 19. (D) 20. (B) 21.Mahabharat  
 22. lead 23.Krushna Patil 24. Black Money

**PAPER-2 (Standard)**

1. (C) 2.(C) 3.(A) 4.(B) 5.False 6.True 7. False 8. False 9. False 10.False 11.Vagbhatta  
 12. Chalukya 13. Ahmedabad 14. 8% 15.1990 16. (B) 17. (D) 18. (A) 19. (C) 20. Free economy  
 21. Delhi, mumbai, chennai, kolkata are fourmetro 22. Kandla 23. Geneva in Switzerland  
 24. RTI stands for right to information

**PAPER-3 (Standard)**

1. (C) 2.(D) 3.(B) 4.(A) 5.(C) 6.True 7. False 8. True 9. True 10.False 11. heritage  
 12. New Delhi 13. 3 14. Mahisagar 15.Intensive Agriculture 16. (D) 17. Rain 18. (A) 19. (D)  
 20. (C) 21. Ganga 22. From Kalol to Koyli & Salaya to Mathura 23. Interval water ways  
 24. Controlled economy



## Students of SOS getting admission in I.I.T.



Ladani Harsh  
I.I.T. - Madras  
(Aero Space Engineering)



Ajani Ankit  
I.I.T. - Bombay  
(Material Science & Engineering)



Bhalodi Yash  
I.I.T. - Madras  
(Computer Sci.-B. Tech)

E.M.



SHYARA PARTH  
I.I.T. - Varanasi  
(Electronics Eng.)



Gondaliya Kartik  
I.I.T. - Madras  
(Computer Sci.-M. Tech)



Gondaliya Bhavantik  
I.I.T. - Banaras  
(Ind. Management-M. Tech)



Nandoriya Ajay  
I.I.T. Rank - 5836  
A.I.E.E.E. Rank - 7823



Chudasama Dhaval  
I.I.T. Rank - 449  
I.I.T. - Khadakpur



Monpara Geeta  
I.I.T. Rank - 2414  
I.I.T. - Bombay

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### JEE-MAIN 2023



Baidiyavadra Jayesh  
PR 93.73



E.M.

BAVARIYADIYA  
PR 92.14



Soni Het  
PR 91.93

### 39 Students Qualified

for JEE-ADVANCED

The students Getting	90	PR or more	05	Students
The students Getting	85	PR or more	20	Students
The students Getting	80	PR or more	31	Students

### JEE-MAIN 2022



Vekariya Raj  
PR 98.96



Somajiyani Vaidik  
PR 98.50



Mali Ajay  
PR 97.80

### 29 Students Qualified

for JEE-ADVANCED

The students Getting	90	PR or more	11	Students
The students Getting	85	PR or more	20	Students
The students Getting	80	PR or more	25	Students

### JEE-MAIN 2021



Dhamecha Shyam  
PR 95.12



Vasoya Yagnik  
PR 94.62



Vadariya Kalapi  
PR 93.55

### 35 Students Qualified

for JEE-ADVANCED

The students Getting	90	PR or more	04	Students
The students Getting	85	PR or more	08	Students
The students Getting	80	PR or more	14	Students

**2014****Third in the Board**

**1** Joshi Sukhdev  
117.50 / 120  
**PR 99.97**

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**2** Asodariya Ronak  
111.75 / 120  
**PR 99.47**

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**3** Rathod Viraj  
111.50 / 120  
**PR 99.45**

---

**69 Students** Obtained  
90 PR or more in GUJ-CET

**2015****Tenth in the Board**

**1** Ramoliya Dhruvil  
116.25 / 120  
**PR 99.90**

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**Tenth in the Board**  
**2** Dangar Neha  
116.25 / 120  
**PR 99.90**

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**3** Vakatar Dharshi  
115 / 120  
**PR 99.81**

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**71 Students** Obtained  
90 PR or more in GUJ-CET

**2016****Second in the Board**

**1** Ram Kishan  
117.50 / 120  
**PR 99.98**

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**Sixth in the Board**  
**2** Kathrotiya Harshal  
116.25 / 120  
**PR 99.94**

---

**Sixth in the Board**  
**3** Chauhan Sanket  
116.25 / 120  
**PR 99.94**

---

**73 Students** Obtained  
90 PR or more in GUJ-CET

**2017****First in the Board**

**1** Ladani Harsh  
113.75 / 120  
**PR 99.99**

---

**2** Ambaliya Khoda  
104 / 120  
**PR 99.88**

---

**3** Kachhadiya Smit  
101.25 / 120  
**PR 99.80**

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**130 Students** Obtained  
90 PR or more in GUJ-CET

**2018****Sixth in the Board**

**1** Gojiya Rahul  
112.5 / 120  
**PR 99.94**

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**2** Jasani Setu  
108.75 / 120  
**PR 99.85**

---

**3** Sakhiya Niddhi  
105 / 120  
**PR 99.69**

---

**108 Students** Obtained  
90 PR or more in GUJ-CET

**2019****Ninth in the Board**

**1** Joshi Soham  
109.00 / 120  
**PR 99.91**

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**2** Kugasiya Hemang  
106.25 / 120  
**PR 99.79**

---

**3** Dudhagara Rakshit  
104.00 / 120  
**PR 99.66**

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**145 Students** Obtained  
90 PR or more in GUJ-CET



**GUJ-CET 2023**

**Gosai Rushik**

**PR**

**99.77**

**Marks**

**111.50 / 120**



The students Getting	<b>98</b>	PR or more	<b>016</b>	Students
The students Getting	<b>95</b>	PR or more	<b>046</b>	Students
The students Getting	<b>90</b>	PR or more	<b>089</b>	Students
The students Getting	<b>85</b>	PR or more	<b>130</b>	Students

**GUJ-CET 2022**

**Gadhadara Kishan**

**PR**

**99.83**

**Marks**

**111.25 / 120**



The students Getting	<b>98</b>	PR or more	<b>013</b>	Students
The students Getting	<b>95</b>	PR or more	<b>043</b>	Students
The students Getting	<b>90</b>	PR or more	<b>088</b>	Students
The students Getting	<b>85</b>	PR or more	<b>128</b>	Students

**GUJ-CET 2021**

**Mandali Priyanshu**

**PR**

**99.78**

**Marks**

**111.25 / 120**



The students Getting	<b>99</b>	PR or more	<b>008</b>	Students
The students Getting	<b>98</b>	PR or more	<b>016</b>	Students
The students Getting	<b>95</b>	PR or more	<b>039</b>	Students
The students Getting	<b>90</b>	PR or more	<b>080</b>	Students

**GUJ-CET 2020**

**Seventh in the Board**

**Valrani Priyanshu**

**PR**

**99.93**

**Marks**

**111.50 / 120**



The students Getting	<b>99</b>	PR or more	<b>014</b>	Students
The students Getting	<b>98</b>	PR or more	<b>026</b>	Students
The students Getting	<b>95</b>	PR or more	<b>058</b>	Students
The students Getting	<b>90</b>	PR or more	<b>105</b>	Students



**NEET****TOPEPRS****Leading in NEET... SOS****NEET - 2023****NO DUMMY STUDENTS****NEET - 2022***Only preparation at school Without Any Coaching*

Gojiya Ravi  
Marks  
**610**

Kunjadiya Uttam  
Marks  
**655**

**Out of 77 students preparing - NEET...**

Obtaining <b>600</b> Marks or more	<b>03</b> Students
Obtaining <b>550</b> Marks or more	<b>10</b> Students
Obtaining <b>500</b> Marks or more	<b>19</b> Students
Obtaining <b>400</b> Marks or more	<b>33</b> Students

**Out of 92 students preparing - NEET...**

Obtaining <b>600</b> Marks or more	<b>06</b> Students
Obtaining <b>550</b> Marks or more	<b>11</b> Students
Obtaining <b>500</b> Marks or more	<b>17</b> Students
Obtaining <b>400</b> Marks or more	<b>31</b> Students

**NEET - 2021**

Mandali Priyanshu  
Marks  
**665**

Dhaneja Pujan  
Marks  
**674**

**NEET - 2020****Out of 102 students preparing - NEET...**

Obtaining <b>600</b> Marks or more	<b>02</b> Students
Obtaining <b>550</b> Marks or more	<b>05</b> Students
Obtaining <b>500</b> Marks or more	<b>14</b> Students
Obtaining <b>400</b> Marks or more	<b>30</b> Students

**Out of 133 students preparing - NEET...**

Obtaining <b>600</b> Marks or more	<b>03</b> Students
Obtaining <b>550</b> Marks or more	<b>09</b> Students
Obtaining <b>500</b> Marks or more	<b>18</b> Students
Obtaining <b>400</b> Marks or more	<b>48</b> Students

## Students of SOS getting admission in reputed institutes

**03** Students **Getting Admission in AIIMS**

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**09** Students **Getting Admission in IIT**

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**774+** Students **Getting Admission in MBBS**

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**4592+** Students **Getting Admission in ENGINEERING**

## Why is the SOS School in 11<sup>th</sup> Science ?

- The only institute focusing exclusively on science stream.
- The organizers are the teachers through whom lectures of all the subjects (Physics, Chemistry, Biology, Maths) are taught. Generally in other schools' owners don't teach but do only management while in our school students get benefits of both the teachers and the administrators.
- Administrators are in direct contact with students as they are teachers, so that the students get a direct solution to the study as well as other questions that arise during the study.
- Many students have got admission in the reputed medical institutes like AIIMS as well as IIT getting highest marks through our subject experts' guide.
- 774+ SOS Students have got admission in MBBS, 4592+ Students in ENGINEERING and many other in PARAMEDICAL.
- Many students who have studied in SOS have settled in the country and abroad and getting higher salary standard.
- The same team of the teachers at both the school - The School of Science (SOS) at Rajkot and Khambhala (Rajkot).
- Healthy competition among students through class work, mega test and phase route test creating stress free environment.
- Guidance and parental contact as per the personal progress report of the students observed every month.

Every Information Of Student's Result Will Be Given To Parents By SMS & Progress Report by mobile app



## SOS - Khambhala



## SOS - Rajkot



**Admission Open in Std. 1 to 10**

**Registration Open in Std. 11 (Science)**

Students who get admission in Science will be given the SOS School's own online application free called "The School of Science-SOS", in which lectures of our teachers of Std. 11<sup>th</sup> and 12<sup>th</sup> (Science) can be seen sitting at home. Students will be able to revise and understand many topics or chapters that are not understood or seem difficult in the class, through the SOS Application will be able to revise the entire course as per their desire. The annual fee for this application is Rs.15,000/- but students seeking admission in SOS will be given application, school bag and Std.11<sup>th</sup>-12<sup>th</sup> materials and it's education free of charge. In addition, Students who attend our entrance test will also be given scholarship according to merit.

L.K.G. to Std. 10  
(Gujarati Medium)

Std. 6 to 10  
(English Medium)

Std. 11-12 Science  
(Gujarati-English Medium)

- Boys Hostel : for Std. 6 to 12
- Girls Hostel : for Std. 11-12 Science

**Head Office :** Behind K.K.V. Hall, Kalawad Road, Rajkot. Ph. : 0281-2588300, 97231 02173, 85111 17275.

**Branch :** Jamnagar Road, Nr. Nyara Village, Khambhala. Ph. : 96876 64164, 93774 56780.

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