AUTUMN BREAK ASSIGNMENT

CLASS-IX

(2023-2024)

ENGLISH

1. **Write the summaries of the following chapters :-**
I. Best seller
II. song of the rain

2. **Write the structures of Simple Present Tense, Present Continuous Tense , Present Perfect Tense and Present Perfect Continuous Tense.**

3. Tick the correct answer :-

1. **He said, "I have been a great mentor."**
A. He said that he had been a great mentor.
B. He said that he was a great mentor.
C. He exclaimed that he was a great mentor.
D. He said that he has been a great mentor.

2. **The guard asked, "Who are you?"**
A. **The guard asked who he was.**
B. The guard asked me who he was.
C. The guard asks me who he was.
D. The guard asked who I was.

3. **Ravi said, "The concert ended yesterday."**
A. Ravi said that the concert had ended yesterday.
B. Ravi said that the concert ended the day before.
C. Ravi said that the concert had ended the previous day.
D. Ravi said that the concert ended already.

4. **Rahul and his friends _____ also invited to the party.**
A. is
B. was
C. had
D. were

Q5. **Neither you nor your sister should _____ to them.**
A. talk
B. talks
C. talked
D. talking

Q6. **Twenty years _____ the minimum age to fill this form.**
A. are
B. is
C. has
D. have

7. **This dress suits her style. She _____ definitely like it!**
A. can
B. could
C. will
D. may

8. **When Juan was two, he _____ already speak very well.**
A. might
B. could
C. can
D. should

9. **_____ I talk to the manager?**
A. Might
B. May
C. Could
D. Shall

10. **During peak hours, it _____ take more than two hours.**
A. can
B. should
C. shall
D. will

4. **What are Modals ? Write the functions of will , would , shall and should ?**
Solve PT-2 question paper in your HOMEWORK COPY

SCIENCE

A. Answer the following Questions :-

1. Learn and write first 20 elements. (symbol, atomic number, mass number , electronic configuration.)
2. Draw well labelled diagram of the following:
   A) Animal cell
   B) Plant cell
   C) Mitochondria
   D) Chloroplast
   E) Nucleus
   F) Neuron
   G) Muscle (3 types)
3. Tabulate the differences between the following:
   1) Plant cell and Animal cell
   2) Bone and cartilage
   3) Tendon and ligaments
   4) Plant tissue and Animal tissue
   5) Homogeneous and heterogeneous mixture
   6) Smooth, striated and cardiac muscles

B. Complete your Note book and revise the completed syllabus.
C. Do prepare portfolio also. (Get print of it)
D. Make a working model for science exhibition. (Avoid use of thermocol and plastic)
E. Prepare PROJECT FOR NCSC.
F. TOPIC OF THE NCSC IS:- Social and cultural practices for ecosystem and health.

1. **Instructions:-**

   ✝ All the students must submit NCSC project.
   ✝ Project can be in the form of a physical project file and soft copy also of the same.
   ✝ Mention your Name, Roll No. Class, section on first page.

• Make a scrap book also on the subtopic of the project. And collect the data also.

: It is a compulsory activity for all. You can prepare project in group of 5 students as well as individually.

AI

SECTION:-A (OBJECTIVE TYPE QUESTION)

1	Which of the following is a short-range wireless communication technology. a) Internet b) Bluetooth c) Microwave d) Satellite	1 Mark
2	Which of the following memory store data permanently . a) Primary Memory b) Secondary Memory c) Cache Memory d) Virtual Memory	1 Mark
3	An Artificial Intelligence domain which uses scientific algorithms and methods to extract knowledge from data is called. a)Computer Vision b) Data Science c) Natural Language Processing d)All of these	1 Mark
4	Virtual Assistants like Siri is based on which domain of Artificial Intelligence. a)Computer Vision b) Data Science c) Natural Language Processing d)All of these	1 Mark
5	Govt. has decided to use AI-based Predictive Analysis from images obtained 1 from satellite and automated drones to reduce losses and increase agricultural productivity, this contributes towards achieving which of the following sustainable development goals. a) Zero Hunger b)Reduce Inequalities c) Quality Education d) Gender Equality	1 Mark
6	Choose the correct order of the stages of AI project cycle. a) Data Exploration -> Evaluation -> Modeling -> Data Acquisition -> Problem scoping. b) Evaluation -> Problem scoping -> Data Exploration -> Data Acquisition-> Modeling. c) Modeling -> Data Acquisition -> Data Exploration -> Problem scoping. d) Data Exploration -> Evaluation -> Modeling -> Data Acquisition -> Problem scoping	1 Mark
7	Which of the following of the 4Ws problem canvas helps in identifying the stakeholders for which a solution is to be developed. a) When b) Who c) Why d) Where	1 Mark
8	In which stage of AI Project Cycle standardized data are obtained from different sources keeping in mind the scope and parameters of the project. a) Problem Scoping b) Evaluation c) Modeling d) Data Acquisition	1 Mark
9	Set of data used to train an AI model is called. a) Raw Data b) Training Data c) Testing Data d) Resultant Data	1 Mark
10	In which stage developed AI model is evaluated for accuracy and performance. a) Data Exploration b) Modeling c) Evaluation d) Problem scoping	1 Mark
11	Rhea loves Mathematics and makes it sure to solve mathematical problems for an hour everyday. This is an example of a) Self Awareness b) Self Motivation c) Self Regulation d) Self Confident	1 Mark
12	Indian humanoid robot Shalu, developed by Mr. Dinesh, KVS can converse in 47 Indian languages. The Artificial Intelligence Technology behind this is (a) Speech Recognition and Speech Generation (b) Natural Language Understanding and Natural Language Generation (c) Natural Language Processing (d) All of these	1 Mark
13	Which of these is a positive facial expression ?	1 Mark

	a)Staring hard b) nodding while listening c) wrinkled forehead d) looking away from the speaker	
14	Which of these sentence use uppercase letter correctly? a. I am Hungry b. Divya and sunil are reading c. The bucket is Full of water d. She lives in Delhi	1 Mark
15	She works _____Saturday. a. At b. to c. in d. on	1 Mark
16	Grooming is a term associated with a. Time management b. problem solving c. neat and clean appearance d. self management	1 Mark
17	Sohan is intra-personally intelligent, that means a) He knows others well b) He knows himself well c) Both a and b d) Neither a nor b	1 Mark
18	An important aspect of Artificial Intelligence is deciding an option /choice from an available set of choices, this is called a) Analyzing b) Decision Making c) Prediction d) Intuition	1 Mark

SECTION:-B (SHORT ANSWER TYPE QUESTION)
(Answer any 11 out of 14)

1	What is a port ? Expand –HDMI,USB ?	2 Mark
2	Which of the self-management skill does the following refer to? (1) Restraining self in provoking situations. (2) Trusting own abilities and taking actions.	2 Mark
3	What is sustainable development? Name any four sustainable development ?	2 Mark
4	What are some future trends of AI?	2 Mark
5	Discuss some application of AI which are currently very popular?	2 Mark
6	Discuss how a smart city can offer inclusion to its citizens ?	2 Mark
7	Discuss some challenges associated with smart city ?	2 Mark
8	Discuss benefits of smart school?	2 Mark
9	What is significance of AI project cycle?	2 Mark
10	What activity / action are carried out during the data acquisition stage of AI project cycle?	2 Mark
11	List briefly the role of problem scoping for designing the solution of a problem .	2 Mark
12	What is data set ? what is its other name ?	2 Mark
13	What is the significance of data analysis ?	2 Mark
14	List some commonly used sources of data collection?	2 Mark

SECTION:- (LONG ANSWER TYPE QUESTION)

1	It is planned to develop of AI based solution using Smart Cameras at traffic signals to record and report traffic violations. (i) Write a statement about the problem to be solved. (ii) Give any one reason for solving the problem. (iii) Identify the location/context where solution is to be used. (iv) Identify who are the stakeholders for the above AI issue.	4 Mark
2	Name the stage of AI project cycle for each of the following. (i) In this stage aim and scope of project are decided (ii) In this stage, model is actually evaluated for accuracy and performance (iii) In this stage, patterns of data are explored (iv) In this stage probable AI models are tested to find the most efficient What is AI ? write three application of AI?	4 Mark
3	What is sustainable development ? Explain ten sustainable development?	4 Mark

MATH

1- complete math LEARNERS DIARY.
2- Practice half- yearly math question paper.
3- complete your math CW and HW notes. 4- Chapter QUADRILATERALS, EUCLID'S GEOMETRY , practice all examples try these and exercise

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SECTION- A
(Multiple Choice Questions)
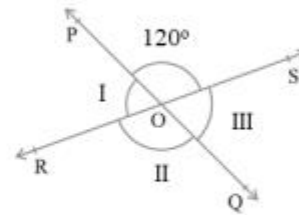**Each question carries 1 mark**

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1. Every rational number is
(A) a natural number (B) an integer   (C) a real number   (D) a whole number

2. Between two rational numbers
(A) there is no rational number   (B) there are only rational numbers and no irrational number
(C) there is exactly one rational number   (D) there are infinitely many rational numbers

3. Which of the following is irrational?

(A) $\sqrt{7}$ (B) $\sqrt{81}$ (C) $\sqrt{\dfrac{4}{9}}$ (D) $\dfrac{\sqrt{12}}{\sqrt{3}}$

4. $2\sqrt{3}+\sqrt{3}$ is equql to
(A) $2\sqrt{6}$ (B) $3\sqrt{3}$ (C) 6   (D) $4\sqrt{6}$

5. $\sqrt{15}\times\sqrt{10}$ is equal to
(A) $5\sqrt{6}$ (B) $10\sqrt{5}$ (C) $\sqrt{25}$ (D) $6\sqrt{5}$

6. Which one of the following is a polynomial?

(A) $\dfrac{x^2}{2}-\dfrac{2}{x^2}$ (B) $\sqrt{2x}-1$ (C) $x^2+\dfrac{3x^{\frac{3}{2}}}{\sqrt{x}}$ (D) $\dfrac{x-1}{x+1}$

7. If $p(x)=x+3$, then $p(x)+p(-x)$ is equal to
(A) 3   (B) 2x   (C) 0   (D) 6

8. If $a+b+c=0$, then $a^3+b^3+c^3$ is equal to
(A) 3abc   (B) abc   (C) 0   (D) 2abc

9. Signs of the abscissa and ordinate of a point in the second quadrant are respectively
(A) +, +   (B) –, –   (C) –, +   (D) +, –

10. The point at which the two coordinate axes meet is called the
(A) ordinate   (B) origin   (C) abscissa   (D) quadrant

11. If the coordinates of the two points are P (–2, 3) and Q(–3, 5), then (abscissa of P) – (abscissa of Q) is
(A) – 5   (B) 1   (C) – 1   (D) – 2

12. The equation x = 7 in two variables, can be written as
(A) 1. x + 0. y = 7   (B) 1 . x + 1 . y = 7   (C) 0 . x + 1 . y = 7   (D) 0 . x + 0 . y = 7

13. The linear equation 3x + 4y = 9 has
(A) A unique solution   (B) Two solutions   (C) Infinitely many solutions (D) No solution

14. For the following statements correct order of true (T) and false(F) is
(i) Only one line can pass through a single point.
(ii) There are an infinite number of lines which pass through two distinct points.
(iii) A terminated line can be produced indefinitely on both the sides.
(iv) If two circles are equal, then their radii are equal.
(A) (i) T (ii) F (iii) T (iv) T   (B) (i) F (ii) F (iii) T (iv)F
(C) (i) F (ii) F (iii) F (iv) T   (D)(i) F (ii) F (iii) T (iv) T

15. Which of the following is not Euclid's axiom
(A) The whole is greater than the part.
(B) If equals are added to equals, the wholes are equal.
(C) Things which coincide with one another are not equal to one another
(D) If equals are subtracted from equals, the remainders are equal.

16. An angle which is greater than 180° but less than 360° is called a
(A) reflex angle   (B) complementary angles   (C) supplementary angles   (D) obtuse angle

17. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2 : 3, then the greater of the two angles is

(A) 54°   (B) 108°   (C) 120°   (D) 136°

18. In the given diagram measures of angles I, II, III are respectively

(A) 120°, 60°, 90°   (B) 120°, 60°, 90°

(C) 120°, 60°, 90°   (D) 60°, 120°, 60°

ASSERTION-REASON BASED QUESTIONS

In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

2

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

19. Assertion(A): Point A $(-2, -4)$ lies on III quadrant

    Reason(R) : A point both of whose coordinates are –ve lies in III quadrant.

20. Assertion(A): degree of non zero constant polynomial is zero

    Reason(R) : polynomial having two terms are called binomial.

Section –B
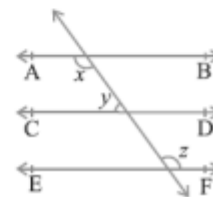### [This section comprises of very short answer type questions (VSA) of 2 marks each]

21. Find five rational numbers between $\dfrac{3}{5}$ and $\dfrac{4}{5}$.

22. Use the Factor Theorem to determine whether $x + 1$ is a factor of $2x^3 + x^2 - 2x - 1$ or not.

23. Find four different solutions of the equation $x + 2y = 6$.

24. If a point C lies between two points A and B such that AC = BC, then prove that $AC = \dfrac{1}{2}$ AB. Explain by drawing the figure.

25. In the given figure, if AB ∥ CD, CD ∥ EF and y : z = 3 : 7, find x.

[This section comprises of short answer type questions (SA) of 3 marks each]

26. Factorise : $x^3 + 13x^2 + 32x + 20$.
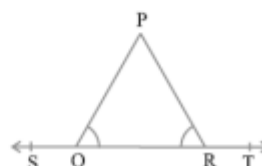
27. Factorise : $8x^3 + 27y^3 + 36x^2y + 54xy^2$

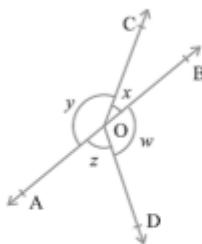**28.** Prove that an equilateral triangle can be constructed on any given line segment.

29. In the given figure, if AC = BD, then prove that AB = CD.

30. In the given figure, ∠ PQR = ∠ PRQ, then prove that ∠ PQS = ∠ PRT.

31. In the given figure,, if x + y = w + z, then prove that AOB is a line.
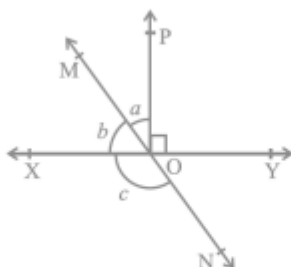

<div align="center">Section –D</div>

[This section comprises of long answer type questions (LA) of 5 marks each]

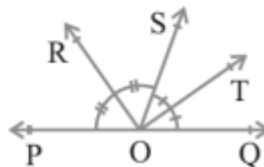**32.(i)** Simplify : $2\sqrt{3} + 3\sqrt{27} + \dfrac{1}{\sqrt{3}}$.

(ii) Find the value of a if $\dfrac{5 + 2\sqrt{3}}{7 + 4\sqrt{3}} = a - 6\sqrt{3}$.

33. If a + b + c = 5 and ab + bc + ca = 10, then prove that $a^3 + b^3 + c^3 - 3abc = -25$.

34. n the given figure, lines XY and MN intersect at O. If $\angle$ POY = 90° and a : b = 2 : 3, find c.

35. In the given figure, ray OS stands on a line POQ. Ray OR and ray OT are angle bisectors of $\angle$ POS and $\angle$ SOQ, respectively. If $\angle$ POS = x, find $\angle$ ROT.
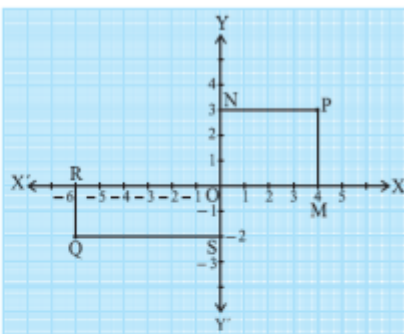

<div align="center">Section –E</div>

[This section comprises of 3 case- study/passage based questions of 4 marks each with sub parts. The first two case study questions have three sub parts (i), (ii), (iii) of marks 1,1,2 respectively.

36. On one day, principal of a particular school visited the classroom. Class teacher was teaching the concept of polynomial to students. He was very much impressed by her way of teaching. To check, whether the students also understand the concept taught by her or not, he asked various
questions to students. Some of them are given below. Answer them.
(i) The polynomial of the type $ax^2 + bx + c$, a = 0 is called
(ii) The value of k, if (x – 1) is a factor of $4x^3 + 3x^2 - 4x + k$, is
(iv) Expand $(4a - 2b - 3c)^2$.

37. Observe the graph and answer the questions
given below :
(i) What are the coordinates of the points R and M?
(ii) What are the coordinates of the points P and Q?
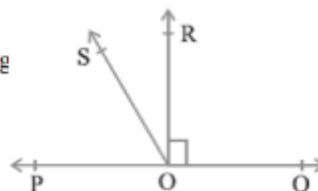(iii) What is the total length of (MP + PN + RQ + QS) ?

38. .In the given figure, POQ is a line. Ray OR is perpendicular to line PQ.
OS is another ray lying between rays OP and OR.
On the basis of the given information and given diagram answer the following
(i) What is the measure of $\angle$ POS + $\angle$ SOR ?
(ii) Name the acute angles in this diagram.

(iii) Prove that $\angle ROS = \dfrac{1}{2}(\angle QOS - \angle POS)$.

SANSKRIT

Note - Write all the answer in your HW Notebooks.

Solve mid-term paper in your note book

Complete CW/HW note book

HINDI

Write all the answer your hw notebooks.

Solve mid term paper in your note book

Complete cw/hw notebook

Sst

1) Practice at least 10 model papers along with the cbse sample paper

2) Practice the following maps

SUBJECT - HISTORY

Chapter-1: The French Revolution Outline Political Map of France • Bordeaux • Nantes • Paris • Marseilles

SUBJECT – GEOGRAPHY

Chapter -1: India-Size and Location • India-States with Capitals, Tropic of Cancer, Standard Meridian

Chapter -2: Physical Features of India • Mountain Ranges: The Karakoram, The Zasker, The Shivalik, The Aravali, The Vindhya, The Satpura, Western & Eastern Ghats • Mountain Peaks – K2, Kanchan Junga, Anai Mudi • Plateau - Deccan Plateau, Chotta Nagpur Plateau, Malwa Plateau • Coastal Plains - Konkan, Malabar, Coromandel & Northern Circar

Art & MUSIC

1.write a poem about swachata .

2.Draw the picture of different state food ,state vegetable and write about them.