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| **CLASS XI A** | **HOLIDAY HOMEWORK 2025** |

**ENGLISH**

**General Instructions:**

1. **Read the newspaper daily with special emphasis on school based reports, notices, posters and articles. Pay attention to the language used.**
2. **Attempt the following questions in English Registers.**
3. **Date of submission is 25 June,2025.**

**SECTION A- WRITING SKILLS**

**Passage 1:  The Importance of Emotional Intelligence**

1. In today's fast-paced world, technical knowledge alone is not enough to guarantee success. Increasingly, emotional intelligence (EI) is recognized as a critical factor in personal and professional achievements. Emotional intelligence is the ability to understand, manage, and express one's emotions effectively, while also being sensitive to the emotions of others.
2. Research shows that individuals with high EI are better at handling stress, resolving conflicts, and leading teams. They tend to have stronger interpersonal relationships and are more adaptable to changing environments. In contrast, individuals with low EI may struggle with teamwork and communication, even if they possess excellent technical skills.
3. Daniel Goleman, a renowned psychologist, identified five key components of emotional intelligence: self-awareness, self-regulation, motivation, empathy, and social skills. Self-awareness involves recognizing one's emotions and their impact, while self-regulation refers to controlling impulsive behaviors. Motivation is the inner drive to pursue goals with energy and persistence. Empathy is the ability to understand others' feelings, and social skills enable individuals to manage relationships successfully.
4. Organizations today prioritize EI when hiring and promoting employees, understanding that a cohesive, emotionally intelligent workforce enhances productivity and fosters a positive work culture. Moreover, educational institutions are beginning to incorporate EI training into their curricula to prepare students for the complexities of modern life.
5. While IQ might open doors to opportunities, it is emotional intelligence that often determines how far an individual will go. Developing EI requires conscious effort, including practices like active listening, self-reflection, and stress management. As the world becomes more interconnected and diverse, emotional intelligence will only grow in importance, shaping not just careers but also personal lives.
6. It is important to note that while IQ (Intelligence Quotient) might open initial doors and present opportunities, it is emotional intelligence that often determines how far an individual will ultimately go. Career advancement, leadership effectiveness, and even personal happiness are deeply intertwined with one's emotional capabilities.
7. However, developing emotional intelligence is not something that happens overnight. It requires conscious, sustained effort. Practices such as active listening, self-reflection, mindfulness, and stress management techniques are fundamental to nurturing EI. By investing time and effort in building emotional skills, individuals not only enhance their professional prospects but also enrich their personal relationships and overall quality of life.
8. As the world becomes increasingly interconnected, diverse, and fast-changing, emotional intelligence will continue to grow in importance. Those who cultivate it will be better positioned to succeed, to lead, and to build meaningful, fulfilling lives in a complex global society.

**A. Answer the following questions by choosing the most appropriate option:**

1. What is Emotional Intelligence (EI) primarily about?

(a) Technical expertise

(b) Understanding and managing emotions

(c) Memorizing facts

(d) Physical strength

2. According to Daniel Goleman, which of the following is NOT one of the five components of emotional intelligence?

(a) Self-awareness

(b) Self-regulation

(c) Motivation

(d) Intelligence Quotient

3. Why are organizations focusing more on emotional intelligence in employees?

(a) To enhance technical knowledge

(b) To ensure faster production

(c) To foster a positive work culture and improve productivity

(d) To increase competition among employees

4. What is one method mentioned for developing emotional intelligence?

(a) Avoiding teamwork

(b) Practicing active listening and self-reflection

(c) Memorizing emotional terms

(d) Ignoring stress

5. Which of the following best explains the relationship between IQ and EI according to the passage?

(a) IQ alone is enough for ultimate success

(b) EI is less important than IQ

(c) IQ opens doors, but EI determines long-term success

(d) IQ and EI are unrelated

**B. Answer the following questions briefly:**

1. Define emotional intelligence in your own words. Why is it important today?

2. List and briefly explain the five components of emotional intelligence according to Daniel Goleman.

3. How does high emotional intelligence benefit individuals in a professional setting?

4.Why are educational institutions incorporating emotional intelligence training in their programs?

5. According to the passage, how can one develop emotional intelligence? Mention any two practices.

**Passage 2: The Rise of Sustainable Fashion**

1. In recent years, the fashion industry has witnessed a transformative shift toward sustainability. Once criticized for being one of the most polluting industries in the world, fashion brands are now embracing eco-friendly practices to meet growing consumer demand for ethical and environmentally responsible products. This movement toward sustainable fashion is not just a trend but a necessary response to the urgent challenges posed by climate change, resource depletion, and social inequality.

2. One key aspect of sustainable fashion is the use of organic and recycled materials. Fabric like organic cotton, hemp, bamboo, and recycled polyester are becoming increasingly popular among designers and manufacturers. These materials require less water, fewer chemicals, and lower energy consumption compared to traditional fabrics like conventional cotton and synthetic fibers. Moreover, recycling old garments to create new clothing pieces helps reduce the volume of textile waste that ends up in landfills.

3. Another important element is ethical labor practices. Many fast fashion brands have faced criticism for exploiting workers in developing countries, paying extremely low wages, and maintaining unsafe working conditions. In contrast, sustainable fashion brands are committed to fair wages, safe workplaces, and transparency in their supply chains. By ensuring that workers are treated with dignity and respect, these brands not only support social justice but also build consumer trust and loyalty.

4.Technology and innovation are also playing a significant role in driving sustainable fashion forward. Companies are experimenting with new production methods such as 3D printing, zero-waste pattern making, and plant-based dyes to reduce the environmental footprint of their products. Digital fashion—virtual clothing designed for avatars in gaming and social media—is emerging as a futuristic way to enjoy fashion without the environmental cost of physical production.

5.Consumer behavior, however, is perhaps the most critical factor in the success of sustainable fashion. While many consumers express a desire to shop sustainably, fast fashion’s low prices and rapid trends still dominate the market. Bridging this gap requires greater awareness, education, and a shift in cultural values toward valuing quality over quantity. Governments and non-profit organizations are also stepping in by creating certifications like Fair Trade and Global Organic Textile Standard (GOTS), helping consumers make informed decisions.

6.Despite the progress, sustainable fashion faces several challenges. High production costs, limited availability of eco-friendly materials, and greenwashing—where brands falsely claim to be sustainable—hinder the industry's growth. Nevertheless, as technology advances and awareness spreads, the future of fashion seems poised to be greener, more ethical, and more innovative than ever before.

7.In conclusion, the rise of sustainable fashion marks a pivotal shift in the way clothes are produced and consumed. It represents a blend of environmental responsibility, ethical commitment, and creative innovation. As more stakeholders—brands, consumers, governments—commit to this cause, the dream of a truly sustainable fashion industry could soon become a reality.

**A. Answer the following questions by choosing the most appropriate option:**

1. What is the main reason behind the rise of sustainable fashion?

(a) It is more affordable

(b) It is a response to environmental and social challenges

(c) It follows the latest celebrity trends

(d) It is easier to produce

2. Which material is not mentioned as sustainable in the passage?

(a) Hemp

(b) Organic cotton

(c) Silk

(d) Bamboo

3. How are companies reducing textile waste according to the passage?

(a) By burning old clothes

(b) By recycling old garments

(c) By producing only synthetic fibres

(d) By limiting fashion shows

4. What is ‘greenwashing’ in the context of fashion?

(a) Washing clothes using eco-friendly detergents

(b) Marketing tactics that falsely claim sustainability

(c) Creating green-coloured fashion lines

(d) Promoting natural fibres

5. Which technology is not mentioned as contributing to sustainable fashion?

(a) 3D printing

(b) Plant-based dyes

(c) Artificial intelligence

(d) Zero-waste pattern making

**B. Answer the following questions briefly:**

1. List two ways in which sustainable fashion is helping the environment.

2. Explain how ethical labour practices are related to sustainable fashion.

3. Why is consumer behaviour critical to the success of sustainable fashion?

4. What are some challenges faced by the sustainable fashion industry according to the passage?

5. Summarize the main idea of the passage in about 50–60 words.

**SECTION B- GRAMMAR**

**i)** **Fill in the blanks using the correct form of the words given in the brackets.**

The government has taken several steps to a)\_\_\_\_\_\_\_\_\_\_ (ensure/ensures/ensuring/ensured) the welfare of its citizens in the face of the ongoing economic crisis. Although some experts b)\_\_\_\_\_\_\_\_\_\_ (argue/argued/arguing/argues) that these measures may not be enough, there is general consensus that they c)\_\_\_\_\_\_\_\_\_\_ (help/helped/helps/helping) reduce the immediate impact of the recession. The focus now, however, is on how long these interventions d)\_\_\_\_\_\_\_\_\_\_ (lasts/lasting/last/lasted) and whether they can provide a foundation for long-term recovery. Economists have called for more attention to e)\_\_\_\_\_\_\_\_\_\_ (innovate/innovation/innovative/innovatively) solutions that will make the economy more resilient in the future.

**ii)** **Read the following passage, identify the errors and correct them.**  **Error Correction**

My little sister Lisa was practising how to riding a bicycle \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

yesterday. Suddenly I hear a loud crash and ran to see what \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

had happened. I saw that she was lying in the ground.

I quickly pulled her up and bought her home. \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

She was crying out loud. I quickly go inside the house and \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

brought the first aid box. After cleaning the wound, I apply \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

antiseptic to the wound.

**SECTION C- LITERATURE**

**Write each of the following questions in 100-120 words.**

1. What does the photograph in the poem ‘A Photograph’ symbolize, and how does it reflect the theme of memory and loss?

2. Briefly comment on the title ‘The Portrait of a Lady’.

3. Identify and explain the poetic devices used in ‘A Photograph.’ How do these devices enhance the meaning of the poem?

4. How does the relationship between the author and his grandmother in ‘The Portrait of a Lady’ evolve throughout the story, and what factors contribute to this change?

5. “The right thing is the often the hardest thing to do.” Discuss this idea with reference to the story ‘The Summer of the Beautiful White Horse’.

**Project: Create and design a book cover for one of the prescribed texts in your syllabus on an A4-sized sheet.**

**PHYSICS**

**Date of submission: 26 June, 2024**

**A.Complete the following assignment in your Physics register.**

1. Find the dimensions of the following quantities:

(a) Torque = force x distance perpendicular to force

(b) Coefficient of viscosity = force x distance/(area x velocity)

(c) Angular momentum = momentum x radius

(d) Latent heat = heat energy/ mass

(e) Impulse = force x time

(f) Coefficient of expansion = change in length /(original length x change in temperature)

(g) Modulus of elasticity = Pressure\* Volume/change in volume

2. Obtain the dimensional formula for the speed of an object in terms of acceleration due to

gravity and time taken by the object.

3. Find the dimensional formula for velocity of waves in water in terms of the density of water

and the pressure.

4. Using energy, pressure and density as standard quantities, find a dimensional formula for

length.

5. Check the correctness of the following relations:

(a) Frequency of waves, f = (F/m)1⁄2 where F is the force and m is the mass.

radius of Earth and d is the density of Earth.

(b) Work done in compressing a system, W = PV2/3 where P is the pressure applied and V is the

volume of the system.

6. Using dimensions, derive a formula for mass in terms of energy, momentum and pressure.

7. Check the correctness of given relationship and if required, make suitable changes to make it

correct: h = r d g /2S cos ∅

where h is the height, r is the radius, d is density, g is the acceleration due to gravity, S is surface tension. {Surface tension is defined as force per unit length}

8. The value of acceleration due to gravity is at a place is 540 cm/s2. Calculate this value in

km/min2.

9. The velocity of a particle at a time t is given by :

V = a +bt + c/(d +t)

Find the dimensions of (i) a/c (ii) d \* t

10. An equation is written as y = A sin(wt +kx ) where y stands for the displacement of an

oscillating body, A is the amplitude, w is the frequency of oscillions and x is the distance covered by the body. Find the dimensions of w/k.

11. The motion of a particle is described by the equation: X = 3(t -2) +5 (t -2) ² .

At what time, is the particle at origin? Find the acceleration of the particle at t= 2s.

12. A body is thrown up with an initial velocity u. It returns to its initial position after time t. Draw its (i) position – time graph (ii) velocity – time graph. (iii) acceleration – time graph.

13. Find the ratio of the distance moved by a freely falling body from rest in its 4th second and 5th second of its journey.

14**.** A car driver driving at 36km/h spots a child on the road 55m ahead. He immediately applies brakes so as to stop within 5m of the child. Calculate the retardation & time taken to stop.

15.A stone is released from a balloon from a height of 300m. How long will the stone take to reach the ground if the balloon is ascending with a velocity of 5m/s?

16. A body covers 20m in the 7th sec & 24m in the 9th sec. How much shall it cover in 15th sec?

17. A stone thrown vertically upward from the top of a tower 85m high reaches ground in 5s. Find the greatest height above ground, velocity with which it reaches ground & the time taken to reach the maximum height (g = 10m/s2).

18. A stone is dropped freely from rest from the top of a tower of height 80m. At the same time another stone is projected vertically upward from the foot of a tower with a velocity of 40m/s. After what time would they meet.

19.The v-t graph for a particle is shown by the curve OABCD. Calculate the distance covered between (a) t = 0 to t = 18s (b) t = 2 to t = 12s

c) Maximum value of acceleration.



20. The magnitude of resultant of two unit vectors is 1. Find (i) angle between the unit vectors. (ii)magnitude of the difference of the unit vectors.

21. If the magnitude of two equal vectors is equal to the magnitude of the subtraction of the vectors, then find the angle between the vectors.

22. A small boat travels towards West at 18 km/h. Wind blows at 18√2km/h towards North- East. Find the resultant velocity of the boat.

23. A force of 50 N acts on an object such that it’s horizontal component is 28N. What is its vertical component? What angle does this force make with the X- axis?

24. If A.B is equal to the magnitude to AxB , then find the angle between A and B.

**B** . Prepare a working model on any of the following topic –

* Green Energy
* Transport and Communication
* Disaster Management
* Pascal’s law
* Conservation of momentum

**CHEMISTRY**

**Date of submission: 27 June, 2025**

**A**. Prepare a 3D working model on the following topics that demonstrates a scientific concept with a focus on creativity, innovation, and teamwork/effort:

* Electrolysis of Water
* Chemical Garden
* Air Pollution Detector
* Solar-Powered Water Desalination Unit
* Air Purifier Model

**B. Complete the following assignment in your Chemistry register.**

1. What is the molality of a 1 L solution of H2SO4 which is 46% wt/vol?

(Density of solution = 1.40 g/cm3)

1. Calculate the molarity of pure water if its density at room temperature is 1.0 g/cm3.
2. Calculate the molarity of solution obtained by dissolving 0.100 g of Na2CO3 in 250 cm3 of solution.
3. Calculate the molality of solution of C2H5OH in water in which the mole fraction of C2H5OH is 0.050.
4. Calculate the percentage composition of zinc, phosphorus and oxygen in zinc phosphate, Zn3(PO4)2
5. What is the molecular formula of a compound that contains 47.4% S and 52.6% Cl? The molecular mass of the compound as determined experimentally is 135 g mol–1.
6. Mass percent composition of a substance is 24.7% Ca, 1.24% H, 14.8% C and 59.3% O. Calculate the molecular formula of the substance if its molecular mass is 162 u.
7. A compound of carbon, hydrogen and nitrogen contains elements in the ratio 9: 1: 3.5. Molecular mass of substance is 108u. Calculate the following:

(i) Empirical formula

(ii) Molecular formula

1. A carbon compound containing only carbon and oxygen has an approximate molecular mass of 290u. On analysis it is found to contain 50% by mass of each element. What is the molecular formula of the compound?
2. Calculate the number of molecules in 4.25 g of NH3.
3. Which has maximum molecules?

(i) 7 gm N2

(ii) 2 gm H2

(iii) 16 gm NO2

(iv) 16 gm O2

1. A compound has following composition:

(i) Sodium = 14.13%

(ii) Sulphur = 9.97%

(iii) Oxygen = 69.50%

(iv) Hydrogen = 6.22%.

Calculate the molecular formula of the compound assuming that whole hydrogen in compound is present as water of crystallisation. Molecular mass of compound is 322u.

1. A sample of phosphorus has 0.5 moles of P4 molecules.

(i) How many P4 molecules are there?

(ii) How many P atoms are there?

(iii) How many moles of P atoms are there in the sample?

(iv)What is the mass of the sample?

1. Calculate the number of atoms in each of the following:

(i) 4 mole atoms of nitrogen.

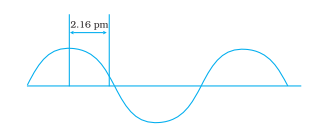
(ii) 0.4 mole molecules of nitrogen.

15.Threshold frequency, ν0 is the minimum frequency which a photon must possess to eject an electron from a metal. It is different for different metals. When a photon of frequency 1.0×1015 s–1 was allowed to hit a metal surface, an electron having 1.988 × 10–19 J of kinetic energy was emitted. Calculate the threshold frequency of this metal. Show that an electron will not be emitted if a photon with a wavelength equal to 600 nm hits the metal surface.

16. Calculate the energy and frequency of the radiation emitted when an electron jumps from n = 3 to n = 2 in a helium atom.

17. Table-tennis ball has a mass 10 g and a speed of 90 m/s. If speed can be measured within an accuracy of 4% what will be the uncertainty in speed and position?

18. A hypothetical electromagnetic wave is shown in given figure. Find out the wavelength of the radiation.



19. Wavelengths of different radiations are given below :



Arrange these radiations in the increasing order of their energies.

20. According to de Broglie, matter should exhibit dual behaviour, that is both particle and wave like properties. However, a cricket ball of mass 100 g does not move like a wave when it is thrown by a bowler at a speed of 100 km/h. Calculate the wavelength of the ball and explain why it does not show wave nature.

**BIOLOGY**

**Date of submission: 30 June,2025**

1. Complete the practical file and write the following experiments:

(a) Mitosis in onion root tip cells and animals’ cells (grasshopper) from permanent slides.

(b) Specimens/slides/models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.

(c) Virtual specimens/slides/models and identifying features of - Amoeba, Hydra, liver fluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.

2. You are required to make mind maps on the following topics given below on an A3

sheet along with supporting diagrams/pictures.

(a) Biological classification

(b) Taxonomical Hierarchy

3. Prepare a 3D working model on the following topics.

(a) Photosynthesis Model: Build a model of a plant cell or chloroplast to demonstrate the process of photosynthesis. Include structures like chlorophyll, thylakoids, and stroma. Show how light energy is converted into chemical energy (ATP and glucose) and oxygen is released as a by-product.

(b) Cell Membrane Permeability Model: Create a model to illustrate cell membrane permeability and transport mechanisms. Use a semi-permeable membrane and materials to represent molecules like water, ions, and proteins. Show how diffusion, osmosis, and active transport occur across the membrane.

(c) Microscope Model : Create a model to illustrate the functioning of compound microscope. Use biodegradable substances to make the microscope body and use lenses and mirror to show the magnification function.

4. Do the following assignment in your biology register:

Q1. What are the limitations of the five-kingdom classification?

Q2. Explain the set of rules in binomial nomenclature system.

Q3. What are Archaebacteria and how are they different from Eubacteria?

Q4. Suppose you accidentally find an old preserved permanent slide without a label. In

your effort to identify it, you place the slide under a microscope and observe the

following features: -

a. Unicellular

b. Well defined nucleus

c. Biflagellate–one flagellum lying longitudinally and the other transversely.

What would you identify it as? Can you name the kingdom it belongs to?

Q5. Define a taxon. What is meant by taxonomic hierarchy. Give a flow diagram from the

lowest to highest category for a plant and an animal. What happens to the number of

individuals and number of shared characters as we go up the taxonomic hierarchy?

Q6. A virus is considered as a living organism and an obligate parasite when inside a host

cell. But viruses are not classified along with bacteria or fungi. What are the

characteristics of viruses that are similar to non-living objects?

Q7. With respect to the fungal sexual cycle, choose the correct sequence of events and

explain.

a. Karyogamy, Plasmogamy and Meiosis

b. Meiosis, Plasmogamy and Karyogamy

c. Plasmogamy, Karyogamy and Meiosis

d. Meiosis, Karyogamy and Plasmogamy

Q8. Apart from chlorophyll, algae have several other pigments in their chloroplast. What

pigments are found in blue-green, red and brown algae that are responsible for their

characteristic colours?

Q9. Brassica campestris Linn a. Give the common name of the plant. b. What do the first

two parts of the name denote? c. Why are they written in italics? d. What is the meaning of Linn written at the end of the name? Linnaeus is considered the Father of n bTaxonomy. Name two other botanists known for their contribution to the field of plant taxonomy?

Q10. Linnaeus is considered the Father of Taxonomy. Name two other botanists known for

their contribution to the field of plant taxonomy?

**MATHEMATICS**

**Date of submission: 1 July, 2025**

**Complete the following assignment in your Mathematics Register**

Q1.State which of the following statements are true and which are false. Justify your answer.  
(i)35∈{x|x has exactly four positive factors}.  
(ii) 128 ∈ {y | the sum of all the positive factors of y is 2y}  
(iii) 3 ∉ {x | x4-5x3 + 2x2 -112x + 6 = 0}

Q2. Given L, = {1,2, 3,4}, M= {3,4, 5, 6} and N= {1,3,5}. Verify that L-(M⋃N) = (L-M) ⋂ (L-N)

Q3. If A and B are subsets of the universal set U, then show that  
(i) A ⊂ A∪ B  
(ii) A⊂B ⟺ A∪B = B  
(iii) (A∩B) ⊂ A

Q4. Let the function f(x) = x2 for all x ∈ X, where X = {-2, -1, 0, 1, 2, 3}, Y = {4,1,0,9}. Define f: X Y. Express the relation f in roster form. Mention if f is a function.

Q5.  For all sets A and B, prove that (A ∪ B)- B = A-B.

Q6. Two finite sets have m and n elements. The number of subsets of the first set is 112 more than that of the second set. Find the value of m and n.

Q7. A, B and C are subsets of Universal Set If A = {2, 4, 6, 8, 12, 20}, B= {3,6,9,12,15}, C= {5,10,15,20} and U is the set of all whole numbers, draw a Venn diagram showing the relation of U, A, B and C.

Q8. Calculate the domain and range of f(x) = |2x-3|-3.

Q9. Let f: x  5x2+2, x ∈ R define the function f. Find the image of 3 under f.

Q10.Draw the graph of ƒ(x) = |x-2|, x ε R. What are the domain and range of ƒ(x)=| x-2|.

**PSYCHOLOGY**

**Date of submission: 2 July,2025**

1. Create a **comic strip or illustrated story** based on a real event from your life where you experienced a **strong emotion**—such as fear, stress, sadness, anger, or even joy—and show how you handled or overcame it. (Use A4 size coloured paper, coloured pens.)

Use the comic or illustration to:

* Tell a true personal story.
* Show what emotion you felt.
* Explain what triggered it.
* Reflect on how you coped or responded.

*Examples of Possible Themes:*

* *Overcoming fear of public speaking.*
* *Dealing with peer pressure in a friendship group (social influence).*
* *Handling stress during a competition or tough time at school.*

1. Write an **essay on the ‘Importance of Emotional Intelligence in Everyday Life’** in your notebooks. (300 words)
2. Complete **NCERT ‘Review questions’ ( Ques 1-8) of Chapter 1** in your notebook**.**

**COMPUTER SCIENCE**

**Date of submission: 3 July 2025**

**General Instructions:**

**All questions are compulsory**

**Python programming questions to be done separately on A4 sheets (take print of the code and output)**

1. What are keywords? Write any 5 Python Keywords.
2. Identify and classify the tokens in the following code snippet as **Keyword**, **Identifier**, **Operator**, **Literal**, or **Punctuator**:

if, sum1, =, "Hello", :, True, +, count\_123

1. Correct the errors in the following lines of code:

roll number = 101

print("The answer is", answer

if a > b print(a)

1. Convert the following:

* Binary to Hexadecimal: 1010110100111, 11010111110110
* Decimal to Binary: 25, 1445
* Hexadecimal to Octal: A3091B, 1FFE8D
* Decimal to Octal: 64, 100

1. Differentiate between:
   1. Bit and Byte
   2. Compilers and Interpreters
   3. Operators and Punctuators
2. Write Python programs to:

* Accept two numbers and print their sum, difference, product, and quotient.
* Find whether a number is even or odd.
* Swap values of two variables.
* Display the square and cube of a number.
* Check if a given number is divisible by both 3 and 5.

1. Short Answer Questions:

* Define a variable and give 2 examples of valid variable names.
* What are keywords? Write any 5 Python keywords.

1. Mini Project on AI and Computing : **"AI Chatbot Simulation" (Text-Based)**

* Build a **simple rule-based chatbot in Python** that can:
  + Greet the user
  + Answer basic questions about your school that can help a parent trying to seek admission to our school. like:  
    Respond with pre-defined answers (use if-elif statements or dictionaries)

**PHYSICAL EDUCATION**

**Date of submission: 4 July, 2025**

**I**.To be done in Practical File

* Practical-1: Labelled diagram of 400 m Track & Field with computations.
* Practical-2: Describe Changing Trends in Sports & Games in terms of changes in Playing surface, Wearable gears, Equipment, Technological advancements.
* Practical-3: Labelled diagram of field & equipment of any one IOA recognised Sport/Game of choice.

**II**. Play any sport during summer vacation and note the changes in body (Muscular system) and write in your practical file.

**III**.Visit any sports complex nearby and write about the game specific changes in infrastructure of your specific game in your practical file.

**IV.** Complete the following assignment in your Register

1. Define Physical Education.
2. What are the objectives of Physical Education?
3. How Physical Education develop neuro-muscular coordination?
4. How can Physical Education contribute in moral and character building?
5. How does Physical Education contribute to an individual’s mental development?
6. What are advantages of using technology in sports?
7. What are the career options an individual has after completion of professional course in Physical Education?
8. What is Khelo India Programme?
9. What is the need of sports competition in school? Discuss in details.
10. Apart from a professional degree in Physical Education, what other key skills are required for opting for career other than teaching?
11. MR. Ram, manager of Sports Company produces sports material of good quality. Following are the pictures of some of the sports goods he produces:



Look at the image carefully and fill in the given blanks:  
(A)Mr. Ram’s company produces the ……………………… equipment.  
(B) ……………………. are now preferred by professional athletes and amateur fitness enthusiasts for variety of activities.  
(C) ………………….. is the equipment, which protects from the head injury.  
(D) He also provide ………………………… for the people who are unable to walk.