CHAPTER 05 THE FUNDAMENTAL UNIT OF LIFE

SUBJECT: SCIENCE **MAX. MARKS : 40**

CLASS : IX **DURATION : 1½ hrs**

General Instructions:

(i). **All** questions are compulsory.
(ii). This question paper contains 2**0** questions divided into five Sections A, B, C, D and E.
(iii). **Section A** comprises of **10 MCQs** of **1 mark** each. **Section B** comprises of 4 questions of **2 marks** each. **Section C** comprises of 3 questions of **3 marks** each. **Section D** comprises of 1 question of **5 marks** each and **Section E** comprises of 2 Case Study Based Questions of **4 marks** each.
(iv). There is no overall choice.
(v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 10 carry 1 mark each.

1. Which of these sentences are not a function of the Ribosome?
(I) It helps in the manufacture of protein molecules.
(II) It helps in the manufacture of enzymes.
(III) It helps in the manufacture of hormones.
(IV) It helps in the manufacture of starch molecules.
Options:
(a) (I) and (II) (b) (II) and (III) (c) (III) and (IV) (d) (IV) and (I)

2. Which cell organelle plays a crucial role in detoxifying many poisons and drugs in a cell?
(a) Golgi apparatus (b) Lysosomes
(c) Smooth endoplasmic reticulum (d) Vacuoles

3. A cell will swell up if:
(a) The concentration of water molecules in the cell is higher than the concentration of water molecules in surrounding medium.
(b) The concentration of water molecules in surrounding medium is higher than water molecules concentration in the cell.
(c) The concentration of water molecules is same in the cell and in the surrounding medium.
(d) Concentration of water molecules does not matter.

4. Which of these is not related to endoplasmic reticulum?
(a) It behaves as a transport channel for proteins between nucleus and cytoplasm.
(b) It transport materials between various regions in cytoplasm.
(c) It can be the site of energy generation.
(d) It can be the site for some biochemical activities of the cell. A

5. The undefined nuclear region of prokaryotes are also known as:
(a) Nucleus (b) Nucleolus (c) Nucleic acid (d) Nucleoid

6. Which of the following are covered by a single membrane?
(a) Mitochondria (b) Vacuole (c) Lysosome (d) Both (b) and (c)

7. The proteins and lipids, essential for building the cell membrane, are manufactured by
(a) Endoplasmic reticulum (b) Golgi apparatus
(c) Plasma membrane (d) Mitochondria K

8. Select the odd one out.
(a) The movement of water across a semi permeable membrane is affected by the amount of substances dissolved in it.
(b) Membranes are made of organic molecules like proteins and lipids.
(c) Molecules soluble in organic solvents can easily pass through the membrane.
(d) Plasma membranes contain chitin sugar in plants.

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.
(a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
(c) Assertion is true but the Reason is false.
(d) Assertion is false but the Reason is true.

9. **Assertion (A):** Multicellular organisms have higher survival rate than unicellular organisms.
Reason (R): In Multicellular organism, dead cells are replaced by new cells.

10. **Assertion (A):** Lysosomes are known as suicidal bag of cells.
Reason (R): Lysosomes contain powerful enzymes capable of breaking down all organic material.

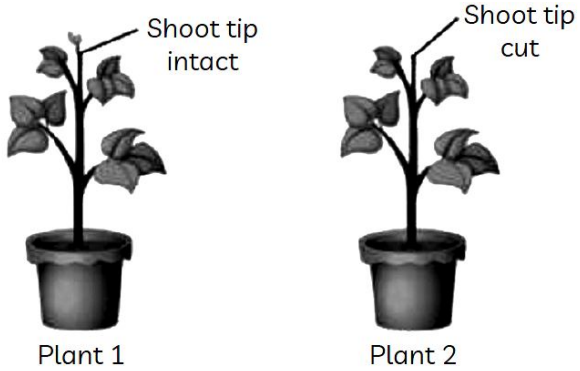
SECTION – B

Questions 11 to 14 carry 2 marks each.

11. In Biology practical class, the teacher asked Renuka and Sahil to keep the onion peel and RBC in two different beakers of hypotonic solution. Renuka noticed that the onion peel swelled while Sahil witnessed the RBCs explode quickly. Why did this happen? Give reason by supporting the activity performed by both of them.

12. (a) Name the two organelles in a plant cell that contain their own genetic material and ribosomes.
(b) If you are provided with some vegetables to cook, you generally add salt into vegetables during the cooking process. After adding salt, vegetables release water. What mechanism is responsible for this?

13. Apical meristem is a type of tissues that helps plants grow in length. Tina took two identical potted plants and cut the shoot tip of one of them. She observed if the two plants grew in height after a week.



What was Tina trying to find out about shoot tips through her experiment?

14. Why does the skin of your finger shrink when you wash clothes for a long time?

SECTION – C

Questions 15 to 17 carry 3 marks each.

15. Give reasons:
(a) Mitochondria is called as the 'Powerhouse of the cell'.
(b) Vacuoles act as storage sacs inside a cell.
(c) Why lysosomes are called suicidal bags of the cell?

16. (a) Write two points of difference between nuclear region of a bacterial cell and nuclear region of an animal cell.
(b) Which structure present in the nuclear region of a living cell bear genes?

17. How does Amoeba take its food?

SECTION – D

Questions 18 carry 5 marks each.

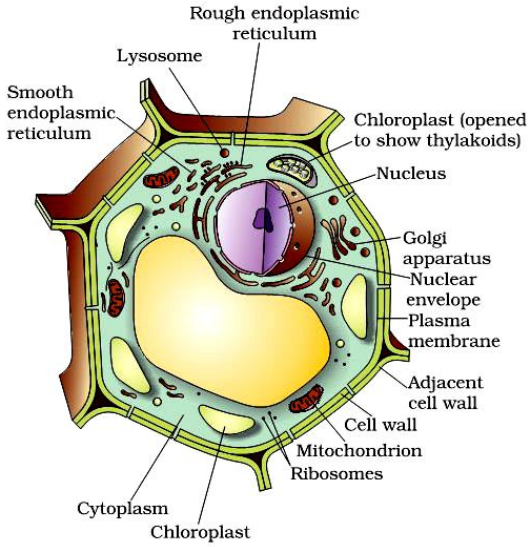
18. (a) Draw the structure of a plant cell and label the part which:
(i) have cisternae-like structures for transport and synthesis.
(ii) is a place where most biochemical reactions occur.
(iii) packages and delivers the material synthesised in a cell.
(iv) acts as a kitchen of the cell.
(b) Also differentiate this cell from an animal cell based on:
(i) Outer membranes
(ii) Presence of centrioles

SECTION – E (Case Study Based Questions)

Questions 19 to 20 carry 4 marks each.

19. Read the following information and answer the questions based on information and related studied concepts.

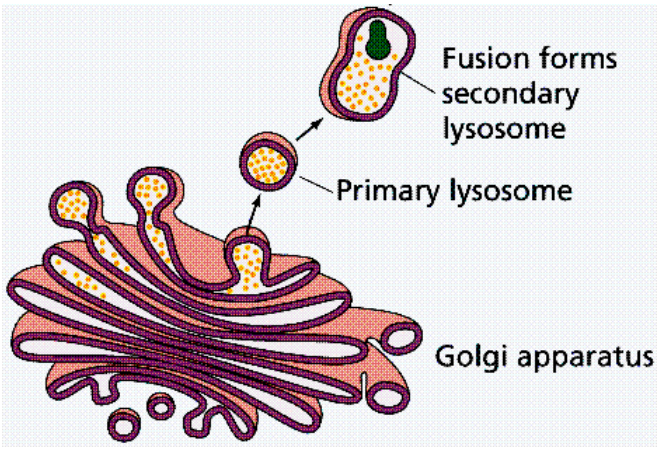
A membrane surrounds each cell, separating its contents from the outside world. To sustain their sophisticated structure and function, large and complex cells, such as those seen in multicellular animals, require a lot of chemical activity. These cells use membrane-bound tiny structures within themselves to keep different kinds of activities apart from one another. The cytoplasm is a jelly-like fluid that fills the space between the plasma membrane and the plasma membrane's outer layer, and it includes a variety of specialised cell organelles. Endoplasmic reticulum, Golgi apparatus, Lysosomes, Ribosomes, Nucleus, Chloroplast, Mitochondria, and Plastids are some of the organelles found in cells. For the cell, each of these organelles has a distinct purpose. An electron microscope is required to see some of these organelles. They're significant since they play a key role in cell function.



(a) Name any five cell organelles. (1)
(b) Name the jelly-like fluid substance present in cells. (1)
(c) What name is given to the functional segments of DNA? What is the function of these functional segments? (2)

20. Read the given passage and answer the questions that follow based on the passage and related studied concepts.

Camilo Golgi was the first to define the Golgi apparatus, which consists of a system of membrane-bound vesicles (flattened sacs) stacked almost parallel to each other called cisternae. These membranes are frequently coupled to the ER membranes, making up a complicated cellular membrane system. The Golgi apparatus packages and transports the material synthesised near the ER to numerous targets inside and beyond the cell. Storage, modification and packing of objects in vesicles are among its functions. Complex sugars can be produced from simple sugars in the Golgi apparatus in some instances. The development of lysosomes is also aided by the Golgi apparatus.



(a) What will happen if the organelle shown above is removed? (2)
(b) Name the cell organelle which has (i) Cristae (ii) Cisternae (1)
(c) What is the importance of cell sap present in vacuoles of plant cell? (1)

PM SHRI KENDRIYA VIDYALAYA GACHIBOWLI, GPRA CAMPUS, HYD-32

PRACTICE PAPER 07 (2024-25)

Political Science - Chapter 02 Constitutional Design

SUBJECT: SOCIAL SCIENCE **MAX. MARKS : 40**

CLASS : IX **DURATION : 1½ hrs**

General Instructions:

(i). **All** questions are compulsory.
(ii). This question paper contains **18 questions** divided into five Sections A, B, C, D and E.
(iii). **Section A** comprises of **8 MCQs** of **1 mark** each. **Section B** comprises of 3 questions of **2 marks** each. **Section C** comprises of 4 questions of **3 marks** each. **Section D** comprises of 2 questions of **5 marks** each and **Section E** comprises of 1 Case Study Based Questions of **4 marks** each.
(iv). There is no overall choice.
(v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 8 carry 1 mark each.

1. India drafted its constitution after the Britishers left. The task of drafting the Indian Constitution was very difficult and tiring. Choose the statement that explains the most appropriate reason for the given assertion.
(I) Indian society was diverse.
(II) Religious tensions were rising.
(III) The length and breadth of the country are vast.
(IV) India was incapable of self-governance.
Options:
(a) (I), (II) and (III) (b) (II), (III) and (IV) (c) (I), (II), III and (IV) (d) (II) and (III)

2. Choose the correctly matched pair.
(a) Krishnamachari - Finance minister of India
(b) Nehru - wrote Young India
(c) Vallabhbhai Patel - Led Bardoli Satyagraha
(d) Sarojini Naidu - Governor of Uttarakhand

3. Various dates are important in India's history due to various important events. In this regard, what is the importance of 26th January 1950?
(a) India became independent
(b) The Constitution came into force
(c) The Constituent Assembly met for the first time
(d) Results of 1st elections post the Independence of India were announced

4. The debates of the Constituent Assembly have been preserved to date. They form 12 bulky volumes. What purpose do they serve now?
(a) They provide the rationale behind various provisions of the Indian constitution.
(b) They interpret the legal codes in a country.
(c) These debates just give us an insight into the social issues faced by Indian society of the time.
(d) These debates help us understand the political parties of India before Independence.

5. The Preamble to the Constitution of India provides important information about the constitution. Which of the following does the Preamble describe as the source of the power in the constitution of India?
(a) People of India (b) Mahatma Gandhi
(c) Ancient scriptures (d) Government of India Act, 1935

6. Arrange in Chronological order.
(I) Mandela was freed.
(II) The South African Constitution was drawn up.
(III) Mandela is sent to Jail.
(IV) The apartheid system is enforced.
Options:
(a) (III), (I), (IV) and (II) (b) (II), (III), (I) and (IV)
(c) (IV), (III), (I) and (II) (d) (II), (I), (IV) and (III)

In the following questions 7 and 8, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false
(d) Assertion (A) is false but Reason (R) is true

7. **Assertion (A):** India is a Republic state.
Reason (R): Governmental policies must regulate the ownership of resources to reduce socio-economic differences between people.

8. **Assertion (A):** The Constituent Assembly represented the people of India.
Reason (R): The representatives of the assembly were chosen by people directly on the universal adult franchise.

SECTION – B

Questions 9 to 11 carry 2 marks each.

9. Why does the Preamble describe the "people of India" as the source of the Constitution?

10. How were the blacks treated in South Africa under the system of apartheid?

11. A Constitution is not merely a statement of values and philosophy. Do you agree? Support your stand using two points.

SECTION – C

Questions 12 to 15 carry 3 marks each.

12. South African constitution-makers struggled a lot to arrive at the basic values that their Constitution should be based on. Why was it so?

13. How does the Indian Constitution manage to stay up to date with changing political opinions and trends?

14. What was Ambedkar's perspective with respect to political equality established by the Indian Constitution and the status of disadvantaged classes in India? Highlight any three points.

15. The Preamble to the Constitution of India describes India as a state with a socialist character. Analyse the implications of the Socialist tendencies and philosophy upon the country's polity.

SECTION – D

Questions 16 to 17 carry 5 marks.

16. Highlight five features of India that Gandhi envisioned in his journal, Young India.

17. Briefly explain the liberation movement of South Africa.

OR

Highlight the political situation and opinions of people during the drafting of the Indian Constitution.

SECTION – E (Case Study Based Questions)

Questions 18 carry 4 marks each.

18. Priya lives in a country named "XYZ". Every citizen of XYZ is free to worship gods or goddesses of her choice. There is no compulsion to worship regarding any particular religion. Each citizen is also free to profess the religion she follows. The state does not have a particular religion, that is, there is no official religion. Each religion has equal rights and obligations. The state also looks at every religion through the same lens. The state does not discriminate between people belonging to different religions. From the information given above, we can be sure that XYZ has a characteristic of modern states.

(a) Identify the value of the Indian constitution described in the source.

(b) Who looks at every religion through the same lens? Why?

(c) What is the difference between 'secularism' and 'communalism'?

KENDRIYA VIDYALAYA GUNUPUR
Summer Break Holiday Homework
Class:-IX
Session:-2025-2026

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
2	Which of the following memory store data permanently . a) Primary Memory b) Secondary Memory c) Cache Memory d) Virtual Memory
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
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
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
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
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
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
9	Set of data used to train an AI model is called. a) Raw Data b) Training Data c) Testing Data d) Resultant Data
10	In which stage developed AI model is evaluated for accuracy and performance. a) Data Exploration b) Modeling c) Evaluation d) Problem scoping

SECTION:-B (VERY SHORT ANSWER TYPE QUESTION)

1	**What is a port ? Expand –HDMI,USB ?**	**2 Mark**
2	**What are the advantages of Smart Home?.**	**2 Mark**
3	**What is sustainable development?**	**2 Mark**
4	**What do you mean by Data Science?**	**2 Mark**

SECTION:-C (SHORT ANSWER TYPE QUESTION)

1	**What are the various areas where Artificial Intelligence can be used?**	**3 Mark**
2	**What are the different Ai project stage? Explain problem scoping by using 4ws .**	**3 Mark**
3	**What are the different units of CPU ? Explain it.**	**3 Mark**
4	**Give any two example of Al solutions to Social Issues?**	**3 Mark**
5	**What are the different career opportunity in Artificial Intelligence.**	**3 Mark**

SECTION:-D (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	**What is sustainable development? Explain briefly .**	**4 Mark**
3	**What are the features of mobile devices? Differentiate between smart phone vs. tablet.**	**4 Mark**
4	**Explain how we secure our city by using AI technology ?**	**4 Mark**

KENDRIYA VIDYALAYA GUNUPUR

SUBJECT: ENGLISH

CLASS-IX **SUMMER HOLIDAY HOMEWORK**

1. Reading Project

Choose and read any one of the following books:

- *Of Mice and Men* by John Steinbeck
- *Animal Farm* by George Orwell
- *Wings of Fire* by Dr. A.P.J. Abdul Kalam
- *The Canterville Ghost* by Oscar Wilde

Tasks:

- Write a **book review** (200–250 words) including:
  - Title, author, setting, main characters
  - Summary of the plot
  - Personal opinion and what you learned
- List **10 new vocabulary words** you discovered while reading and use each in an original sentence.

2. Writing Skills Practice

Write one composition each from the following types:

a. Descriptive Paragraph:

"A Rainy Day in the City" or *"The View from My Window"*

b. Article Writing:

"Social Media: A Boon or a Bane for Teenagers"

c. Story Writing:

Begin your story with: *"I had never felt such fear before…"*
(150–200 words)

3. Grammar Practice

Complete the following grammar tasks:

- **Transformation of sentences:**
  Change 5 assertive sentences into interrogative, negative, and exclamatory forms.
- **Tense Revision:**
  Write 2 sentences each in all **12 tenses**.
- **Reported Speech:**
  Convert 5 dialogues into reported speech.

4. Listening & Speaking Practice (Optional but Recommended)

- Listen to a short TED Talk or audiobook (English) of your choice.
  - Write a brief note (100–150 words) on what it was about and what you learned.
- Prepare a short speech (1–2 mins) on any one topic:
  - "My Role Model"
  - "How Books Shape Our Mind"
  - "What Makes a Great Leader"

5. Creative Task

Create a visual representation (poster, collage, comic strip, or mind map) on any one of the following:

- "The Power of Words"
- "Literature and Life"
- "The Importance of Reading"

You may use drawings, magazine cutouts, calligraphy, and colors to make it visually appealing.

Submission Guidelines

- Use your HW for written tasks.
- Visual/creative tasks should be done on **HW**.
- All work must be done **neatly and creatively**.
- Homework must be **submitted on the first day after summer vacation**.

केंद्रीय विद्यालय गुनुपुर

ग्रीष्मकालीन अवकाश गृहकार्य

कक्षा - नवीं

विषय-हिंदी

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1. 'दो बैलों की कथा' कहानी के अनुसार गधे के स्वभाव का वर्णन अपने शब्दों में कीजिए ।

2. बढ़ते साइबर अपराध विषय पर 120 शब्दों में अनुच्छेद लिखिए।

3. 'बढ़ती जनसंख्या वरदान या अभिशाप' विषय पर चर्चा करते हुए पक्ष विपक्ष में तर्क दीजिए।

4. अपने मित्र को अपनी बहन की शादी में आमंत्रित करते हुए प्रार्थना पत्र लिखिए।

5. आपका नाम दिशा / दक्ष है। आपकी आयु मतदान करने की हो गई है। मतदाता पहचान पत्र बनवाने के लिए निर्वाचन अधिकारी को पत्र लिखिए ।

Note. यह गृहकार्य A4 साइज पेपर पर कीजिए ।

KENDRIYA VIDYALAYA GUNUPUR

SUBJECT: MATHEMATICS CLASS: IX

SUMMER HOLIDAY HOME WORK SESSION: 2025-26

"Do the home work in your home work copy only"

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1) Simplify: $(\sqrt{5} + \sqrt{2})^2$.
2) Find the value of $\sqrt{(3)^{-2}}$.
3) Identify a rational number among the following numbers :
   $2 + \sqrt{2}$, $2\sqrt{2}$, 0 and π
4) Express 1.8181… in the form pq where p and q are integers and $q \neq 0$.
5) Simplify : $\sqrt{45} - 3\sqrt{20} + 4\sqrt{5}$
6) Find the value of'

$$\frac{(0.6)^0 - (0.1)^{-1}}{\left(\frac{3}{8}\right)^{-1}\left(\frac{3}{2}\right)^3 + \left(-\frac{1}{3}\right)^{-1}}$$

7) Find the value of

$$\frac{4}{(216)^{\frac{-2}{3}}} - \frac{1}{(256)^{\frac{-3}{4}}}$$

8) Express $23.\overline{43}$ in pq form, where p, q are integers and $q \neq 0$.
9) Represent $\sqrt{3}$, $\sqrt{13}$ on the number line.
10) Find one rational and one irrational number between 1.501 and 1.502.
11) Find two irrational numbers between 0.2301 and 0.2424
12) Rationalise the denominator 16 / (√41-5)
13) Represent √5.5 on the real line.
14) If $x = 3 + \sqrt{8}$, show that $x^2 + 1/x^2 = 34$.
15) Find the value of a and b if $(3 + \sqrt{7}) / (3 - \sqrt{7}) = a + b\sqrt{7}$
16) Simplify: (i) $6^{2/5} \times 6^{3/5}$ (ii) $3\sqrt{4} \times 3\sqrt{16}$ (iii) $81^{3/4}$ (iv) $4\sqrt{1250} / 4\sqrt{2}$
17) Find out and write history of Pie (π).
18) Find out and write about any Indian Mathematician.
19) Find one rational and one irrational number between 2/3 and 8/9.
20) Do rest of the exercises of Number System on your HW Notebook.

KENDRIYA VIDYALAYA GUNUPUR

SESSION: 2025-26 SUMMER HOLIDAY HOMEWORK

CLASS – IX SUBJECT - SANSKRIT

Complete CW/HW note book

निम्नलिखित बिन्दुओं कों संस्कृत गृहकार्य (HW) खाते में लिखीए और याद रखें ।

०. समय परिचय (सार्ध,सपाद,पादोन,उन,अधिक,) को संस्कृत में लिखीए।

१. पढ़े गए विषयों कें अभ्यास कार्य को करें और पठित विषय में से कोइ ५ श्लोक (अन्वय एवं अर्थ सहित) लिखें ।

२. १ से १०० तक संख्या को संस्कृत अक्षर में लिखीए?

३. स्वरसन्धि: ,व्यञ्जनसन्धि: के व्याकरण पुस्तक में अभ्यास कार्य करें ।

५. निम्नलिखित शब्दरूप को संस्कृत में लिखीए -

(बालक , बालिका , कवि, भानु, नदी, फल, किम् ,एतत् , सर्व तत्,अस्मद् ,युष्मद्)

६. निम्नलिखित धातु रुप कों संस्कृत में लिखीए-

(पठ् , भू , गम् ,अस् ,कृ,ज्ञा,सेव्,)