

**NIRMALA MATHA CENTRAL  
SCHOOL, THRISSUR**

**CLASS VIII**

**QUESTION BANK**

**PART I**

**2023-24**



**English**  
**Lesson 1**  
**The Big Wave.**

**I. Synonyms**

- |                       |                           |
|-----------------------|---------------------------|
| 1. Convince = Assure  | 2. Suddenly = Immediately |
| 3. Sobbing = Crying   | 4. Fathoms = Penetrate    |
| 5. Return = Give back |                           |

**II. Antonyms**

- |                            |                      |
|----------------------------|----------------------|
| 1. Buy × Sell              | 2. Beautiful × Ugly  |
| 3. Friend × Enemy          | 4. Remember × Forget |
| 5. Fortunate × Unfortunate |                      |

**III. Short Answer Questions.**

1. What did Kino's and Jiya's father do for a living?
2. What did Kino and Jiya do on hot, sunny days?
3. What happened to Jiya's family?
4. What did Jiya decide in the end?
5. What was the signal from the Old Gentleman's Castle?

**IV. Long answer question.**

1. Describe the big wave?

**V. Reference to context.**

1. "To live in the midst of danger is to know how good life is..."
  - a) Who said this?
  - b) What is the danger that he is referring to here?
  - c) According to the speaker, how should we face up to danger?
2. "I must tell my father!"
  - a) Who is the speaker?
  - b) What did he want to tell his father?
  - c) Was he able to tell? Why?

## Lesson 2

### Our Half of the World.

#### I. Synonyms

1. Sighed = Cried
2. Exclusive = Most relevant
3. Assure = Guarantee
4. Swerved up = Turned up
5. Boutique = Shop

#### II. Antonyms

1. Agree × Disagree
2. Belief × Disbelief
3. Harmony × Disharmony
4. Wide × Narrow
5. Strong × Weak

#### III. Short Answer Questions.

1. Where was Arjun Rathore going? What was he reading for the hundredth time on his way?
2. What does Shruti believe women deserve?
3. What does Granny tell Shruti when she finds some rules at home unfair?
4. What do people do when Mrs. Dokhrut is outside her home?
5. What had Mrs. Dokhrut suggested for Shruti?

#### IV. Long Answer Question.

1. Give four differences between Ridalin's and Shruti's grandmothers.

#### V. References to context.

1. "Why don't we open that boutique of yours?"
  - a) Who is the speaker?
  - b) Whose boutique is being referred to here?
  - c) By saying this, what is the speaker showing?
2. "Yes, I did hear her pleading with you one night about it."
  - a) Who is 'her' in this line?
  - b) Who is 'you' in this line?
  - c) What is the person pleading for?

## Poem- Stronger.

### I. Synonyms

1. Eliminate = Remove
2. Comfort = Solace
3. Crush = Mash
4. Calm = Peaceful
5. Proud = Arrogant

### II. Antonyms

1. Remember × Forget
2. Ashamedly × Unashamedly
3. Comfort × Discomfort
4. Strong × Weak
5. Full × Empty

### III. Short Answer Questions.

1. How does the poet mark each time her glasses were broken by the bully?
2. What silenced the poet's cries?
3. How does the poet make up for each day that she was bullied?
4. What is the poet proud of and what is her profession now?
5. What does the poet admit in the poem, "The Stronger"?

### IV. Long Answer Question.

1. Do you think 'Stronger' is an appropriate title? Give reason for the same.

### V. Reference to context.

1. "I am sure you don't remember me."
  - a) Who is "I" and "you"?
  - b) Why does the other person not remember?
  - c) Why does the speaker want him to remember?
2. "Because I was just dirt crushed under your boots."
  - a) Whose boots were crushing the dirt?
  - b) What happened because the poet was dirt?
  - c) What kind of literary device is 'just dirt crushed under your boots'?

Make a sentence with the expression.

## Lesson 3.

### The Gift of Magi.

#### I. Synonyms

1. Sniffles = Sobs
2. Sacrifice = Surrender
3. Rapid = Fast
4. Hesitate = Delay
5. Rippling = Wavy

#### II. Antonyms

1. Expenditure × Income
2. Quick × Slow
3. Beautiful × ugly
4. Dead × alive
5. Ashamed x unashamed

#### III. Short Answer Questions.

1. What made Della unhappy?
2. What did the Magi invent?
3. Describe Della's hair at the beginning of the story?
4. What was Jim's precious possession?
5. What did Della want Jim to do?

#### IV. Long answer question.

1. Compare and contrast the characters of Jim and Della.

#### V. Reference to context.

1. "Take your hat off and let's have a look at it."
  - a) Who said this?
  - b) What did the speaker want to see?
  - c) Why did the speaker want to see?"
2. "Don't you like me just as well, anyhow?"
  - a) Who is the speaker?
  - b) Who should like the speaker?
  - c) What does the speaker mean by 'just as well'?

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## Lesson 4.

### The Hissing of Cobra.

#### I. Synonyms

1. Buff striped = Streaked
2. Promptly = Punctually
3. Proclaim = Demonstrate
4. Prodded = Pushed
5. Darted = dashed

#### II. Antonyms

1. Definite × indefinite
2. Forgettable × unforgettable
3. Action × inaction
4. Relief × distress
5. Venom × Antivenom

#### III. Short Answer Questions.

1. Describe the surroundings where the writer lived?
2. What happened in the evenings at the farm?
3. What did the writer do when they reached the house?
4. What are the two things the writer used to take the snake out?
5. How long did it take the writer to remove the cobra?

#### IV. Long Answer Question.

1. The writer refers to all the animals including cobra as 'guests'. What does it tell you about the writer's attitude towards them?

#### V. Reference to context.

1. "They usually ran a mile from it."
  - a) Who are 'they' and who is 'it'?
  - b) Why did they run a mile?
  - c) Make a sentence with 'run a mile.'
2. "The evenings are a treat as far as moths and insects are concerned."
  - a) Why did the writer like the evenings?
  - b) What did he do when he saw interesting insects?
  - c) Make a sentence with 'are a treat.'

## Poem.—Lochinvar

### I. Synonyms

1. Staid = Respectable
2. Consent = Allow
3. Goblet = chalice
4. Fret = worry
5. Gallant = Respectful

### II. Antonyms

1. Best × Worst
2. Faithful × faithless
3. Bravely × cowardly
4. Deny × Accept
5. Mount × Dismount

### III. Short Answer Questions.

1. Where did Lochinvar come from?
2. What kind of horse did he have and who was with him as he rode?
3. What happened on Cannonbie Lee?
4. What were the three reasons that the bride's father asked Lochinvar?
5. Who were at the Netherby Hall when Lochinvar entered?

### IV. Long Answer Question

1. Compare and contrast the characters of Lochinvar and Ellen's bridegroom with examples from the poem.

### V. Reference to context.

1. "So faithful in love, and so dauntless in war..."
  - a) Who is being described in this line?
  - b) Give one example of the person being 'faithful in love.'
  - c) Give one example of the person being 'dauntless in war.'
2. "O Come ye in peace here, or come ye in war..."
  - a) Who is the speaker?
  - b) Why does the speaker think the person may have come 'in war'?
  - c) Why did the other person actually come?

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പാഠം 1

സൗന്ദര്യലഹരി

1. പച്ചിലച്ചാർത്തിൻ പഴുതിലൂടെ പശ്ചിമാംബരത്തിൽ കവി കാണുന്നതെന്താണ്?
2. കിഴക്കേദിക്കിൽ സിന്ദൂരം പൂശി പൂവിനെ ചിരിപ്പിച്ചുകൊണ്ട് വന്നെത്തുന്നത് എന്ത്?
3. മുല്ലമൊട്ടുകൾ എന്ന കവി വിശേഷിപ്പിക്കുന്നത് എന്തിനെയാണ്?
4. വാർമതിയൊഴുകുന്ന പുനിലാവിൽക്കുളിച്ചെത്തുന്നത് ആര്?
5. സൗരഭോന്മാദം പൂണ്ട് തരുന്നതെന്തെല്ലാം തഴുകുന്നത് ആര്?
6. “അന്തരംഗാന്തരം” എന്ന പദംകൊണ്ട് അർത്ഥമാക്കുന്നത് എന്ത്?
7. അരണ്യത്തിലെ പുഞ്ചോലകൾ ഒഴുകുന്നത് എങ്ങിനെ?
8. തേനീച്ചകൾ മുരളുന്നത് എവിടെ?
9. പല്ലവാകുലമായ ചില്ലക്കൈയുകളാട്ടി നൃത്തം ചെയ്യുന്നത് ആര്?
10. സൗന്ദര്യലഹരി എന്ന കവിത എഴുതിയത് ആര്? കൃതി?

പാഠം 2

കൂട നന്നാക്കാനുണ്ടോ?

1. കതകു തുറന്നപ്പോൾ കേട്ട ചോദ്യം എന്തായിരുന്നു?
2. ‘അക്ഷോഭ്യനായി അയാൾ പറഞ്ഞു’ - പറഞ്ഞത് എന്താണ്?
3. പഴയകൂടയുടെ വിലയായി അയാൾക്ക് കിട്ടിയത് എന്ത്?
4. വർഷംതോറും വർധിച്ചുവരുന്നത് എന്ത്?
5. മാനേജർ എന്തിനെക്കുറിച്ചായിരുന്നു പ്രസംഗിച്ചിരുന്നത്?
6. എന്നെക്കുറിച്ച് പഠിപ്പും ‘പരിചയവുമില്ലാത്തവൻ എന്ന അവജ്ഞ എനിക്കു തോന്നിയില്ല’ എന്തുകൊണ്ട്?
7. മുതലാളിയുടെ ഉപദേശം എന്തായിരുന്നു?
8. ആ ചോദ്യം എന്റെ മനസ്സിൽ പരാജയഭീരുവാക്കിതീർത്തു ഏതു ചോദ്യം?
9. നാലുവശത്തേക്കും നോക്കി ആരുമില്ലെന്നു ബോധ്യം വന്നപ്പോൾ അയാൾ വിളിച്ചുപറഞ്ഞത് എന്ത്?
10. ബാലകഥകൾ എന്ന ചെറുകഥ എഴുതിയത് ആര്?

**പാഠം 3**

**യാത്രാമൊഴി**

1. ഇപ്പോൾ ഭൂജിപ്പാൻ സമയമില്ല എന്ന് ശ്രീരാമൻ പറയാൻ കാരണമെന്ത്?
2. പിതാവ് വരം നൽകിയിരിക്കുന്നത് ആർക്കാണ്?
3. എത്ര വർഷമാണ് രാമൻ വനവാസം കൽപിച്ചിരുന്നത്?
4. ശ്രീരാമന്റെ വാക്യം കേട്ട് പാരിൽ മോഹിച്ച് വീണത് ആരാണ്?
5. രാമൻ വനവാസത്തിന് പോയാൽ കൗസല്യ എവിടെ പോകുമെന്നാണ് പറഞ്ഞത്?
6. “സന്താപമേതും മനസ്സിലുണ്ടാകാതെ സന്തുഷ്ടയായ് വസിച്ചീടുക മാതാവു” ആരുടെ വാക്കുകളാണിത്?
7. “പൈതലൈ വേർവിട്ടുപോയ പശുവിനുള്ളായി പറഞ്ഞറിയിച്ചീടരുതല്ലോ” - ആരുടെ വാക്കുകൾ?
8. താതനായ ദശരഥന്റെ നിയോഗം എന്തായിരുന്നു?
9. താതന്റെ നിയോഗമനുസരിച്ച് രാമൻ വനവാസത്തിന് പോയാൽ കൗസല്യ എന്ത് ചെയ്യുമെന്നാണ് പറയുന്നത്?
10. കിളിപ്പാട്ടു പ്രസ്ഥാനത്തിന്റെ ഉപജ്ഞാതാവാര്യ്?

**പാഠം 5**

**ജാതി ചോദിക്കുന്നില്ല ഞാൻ സോദരി**

1. ഭിക്ഷു ചണ്ഡാലപ്പെൺകൊടിയോട് ആവശ്യപ്പെട്ടതെന്ത്?
2. ഭിക്ഷുവിന്റെ അർഥന കേട്ടപ്പോൾ പെൺകുട്ടി അമ്പരക്കാൻ കാരണമെന്ത്?
3. “ഓതിനാൾ ഭിക്ഷുവേറ്റം വിലക്ഷനായ്” എന്താണ് ഭിക്ഷു പറഞ്ഞത്?
4. ആരുടെ മകളാണ് ചണ്ഡാലി?
5. ചണ്ഡാലിയുടെ പാളയിൽ നിന്ന് ജലം തുളുമ്പാൻ കാരണമെന്ത്?
6. ഭിക്ഷു ഏതുപോലെ സുന്ദരനാണ്?
7. പിന്നെത്തർക്കം പറഞ്ഞില്ല ഓമലാൾ. എന്തുകൊണ്ട്?
8. കവി വെള്ളത്തെ എന്തിനോടാണ് ഉപമിച്ചിരിക്കുന്നത്?
9. ചണ്ഡാലി കൊടുക്കുന്ന ഓരോ തുള്ളി വെള്ളവും എന്തായി തീരട്ടെ എന്നാണ് കവി ചിന്തിക്കുന്നത്?
10. ആധുനിക കവിത്രയങ്ങൾ ആരെല്ലാമാണ്?

## HINDI

### ध्वनि

1. अभी-अभी कौन आया है?
2. हरा-हरा क्या है?
3. क्या मृदुल बना हुआ है?
4. तंद्रालस कहाँ छिपा है?
5. कवि का नाम लिखो।
6. क्या जगने वाला है?
7. पुष्प से क्या खींच लेंगे?
8. क्या सींच देंगे?
9. पात का रंग क्या है?
10. क्या दिखा दूँगा?
11. दो संज्ञा शब्द लिखो।
12. दो विशेषण शब्द लिखो।
13. पौधे के पाँच भाग लिखो।
14. प्रकृति में हरि दिखने वाली तीन चीज़ों के नाम लिखो।
15. ध्वनि का समान शब्द लिखो।
16. डालि शब्द का समान शब्द लिखो।
17. तीन फूलों के नाम लिखो।
18. क्रियाओं को छोटकर लिखो।
19. 'कलियाँ' - वाक्य बनाओ।
20. 'मृदुल' - वर्ण-विच्छेद करो।

## लाख की चूड़ियाँ

1. मकान के सामने कौनसा वृक्ष था?
2. कौन अच्छा आदमी था?
3. गोलियाँ कैसी थीं?
4. वस्तु विनिमय क्या है?
5. बदलू का पौतूक पेशा क्या था?
6. बदलू लला को क्या क्या देता?
7. बदलू घर में किसपर बैठा था?
8. लला का नाम क्या था?
9. आजकल सब काम कैसे होता है?
10. लेखक का नाम लिखो।
11. गोलियाँ कौन बनाता था?
12. भट्टी कैसी थी?
13. भट्टी में क्या पिघलाया करता?
14. विभिन्न आकार के क्या रखे गए थे?
15. बदलू किसपर बैठता था?
16. शादी के जोड़े के बदले बदलू को क्या मिलता?
17. बदलू को किस चीज़ से नफरत थी?
18. शहरी स्त्रियों की कलाइयाँ कैसी थीं?
19. बदलू लला के लिए क्या बचाकर रखता?
20. बदलू के कौनसी फसल थी?
21. कौन फिसलकर गिर गई?
22. किसने उसकी मरहम-पट्टी की?
23. गाँव में किस चीज़ का प्रचार हो गया?

24. बदलू का शरीर कैसा था?
25. बदलू के माथे पर क्या थी?
26. रज्जो लला के लिए क्या लाए?
27. लाख्र का आखिररी जोड़ा किसने पहना था?
28. दो संज्ञा शब्द निकालो।
29. रज्जो आम कैसे लाई?
30. कब गाय बेच दी?

### बस की यात्रा

1. बस क्या है?
2. पन्न से सत्ता के लिए बस कितने घंटे बाद मिलती है?
3. कहाँ जाने की ट्रेन मिला देती है?
4. गांधीजी की २ आंदोलनों के नाम लिखो।
5. पेड़ पर कौन बैठे थे?
6. झील देखकर क्या लगता था?
7. पुलिया के ऊपर क्या हुआ?
8. बस किस रफतार से चल रही थी?
9. “बस तो फर्स्ट क्लास है जी” किसने किससे कहा?
10. लेखक का नाम लिखो।
11. बस किस बात की योग्य थी?
12. बस कंपनी के कौन बस में थे?
13. नयी नवेली बसों से ज्यादा विश्वसनीय कौन है?
14. सीट के नीचे क्या मेहसूस हुआ?
15. पेट्रोल की टंकी में क्या हो गया?

16. ड्राइवर ने पेट्रोल कहाँ निकाला?
17. चाँदनी कैसी थी?
18. धीरे-धीरे बस की आँखों को क्या हुआ?
19. पुलिया पर बस स्पीड में होती तो क्या होता?
20. “वह महान आदमी आ रह है” किसने किससे कहा?
21. कैसा टायर लगाकर बस फिर चली?
22. इत्मीनान से बैठकर क्या शुरू हो गया?
23. कितने दोस्त यात्रा पर निकले?
24. २ संज्ञा छाँटकर लिखो।
25. २ विशेषण छाँटकर लिखो।
26. ‘निकल जाओ, बेटा।’ किसने किससे कहा?
27. जो छोड़ने आए थे, वे कैसे देख रहे थे?
28. एक मित्र कौन था?
29. ‘पक्षी’ का समान शब्द लिखे।
30. चाँद का पर्याय शब्द लिखे।

### भगवान के डाकिए

1. कवि का नाम लिखो।
2. डाकिए का काम क्या है?
3. उनकी वर्ण का रंग लिखो।
4. वह क्या लाता है?
5. भगवान के डाकिए कौन है?
6. पक्षी और बादल कौन है?
7. एक महादेश से कहा जाते है?
8. एक महादेश से दूसरे महादेश कौन जाते है?

9. उनकी चिट्ठियाँ कौन बाँचते हैं?
10. एक देश की धरती दूसरे देश को क्या भेजती है?
11. कौन किसे सुगंध भेजती है?
12. क्या हवा में तैरते हैं?
13. सौरभ कहाँ तैरते हैं?
14. सौरभ किनके पाँखों पर तिरता है?
15. एक देश का भाप कहाँ गिरता है?
16. एक देश का भाप वहाँ क्या बनकर गिरता है?
17. भाप कहाँ से कहा जाता है?
18. भाप क्या बन जाता है?
19. समान शब्द : देश, चिट्ठी
20. पर्याय - पक्षी, बादल, पानी
21. डाकिए बन पक्षियों के चित्र खींचें।
22. कौनसे पक्षी डाकिए बन सकते हैं?

## Science- Physics

### L-11

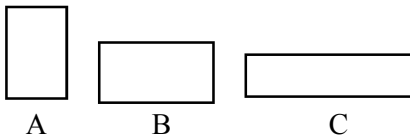
#### FORCE AND PRESSURE

##### I. Choose the correct answer.

- A ..... exerted by an object on another is a force.
  - push or pull
  - contact or non-contact force
  - pressure
  - magnitude
- Force changes the
  - motion of body
  - speed of body
  - shape of body
  - all of these
- Two boys A and B are applying force (pull) on a block. If the block moves towards the boy A, which one of the following statements is correct?
  - Magnitude of force applied by A is greater than that of B
  - Magnitude of force applied by A is smaller than that of B.
  - Net force on the block is towards B
  - Magnitude of force applied by A is equal to that of B.
- When 2 forces act in opposite directions, then net force acting in the
  - Sum of 2 forces
  - difference between 2 forces
  - both of these
  - none of these
- The strength of force is expressed by its
  - weight
  - mass
  - magnitude
  - longitudinal force
- Leaves fall down on the ground due to
  - electrostatic force
  - magnetic force
  - gravitational force
  - muscular force



7. State of motion is described by
  - a) position of rest
  - b) position of motion
  - c) both by the state of rest or motion
  - d) none of these
8. When the hammer strikes the gong of an electric bell, which of the following force is responsible for the movement of hammer?
  - a) Gravitational force alone
  - b) Magnetic force alone
  - c) Electrostatic force along
  - d) Frictional force alone
9. Which one of the following forces is a contact force?
  - a) Force of gravity
  - b) Magnetic force
  - c) Force of friction
  - d) electrostatic force
10. A brick is kept in three different ways on a table as shown in given figure. The pressure exerted by the brick on the table will be

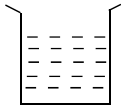


- a) Maximum in position A
- b) Maximum in position C
- c) Maximum in position B
- d) Equal in all cases.

## II. Answer the following.

11. A chapati maker is a machine which converts balls of dough into chapati. What effect of force comes into play in this process?
12. It is difficult to cut cloth using a pair of scissors with blunt blades. Explain.
13. It is much easier to burst an inflated balloon with a needle than by a finger. Explain.

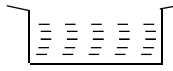
14. Observe the vessels A, B, C and D carefully



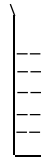
(A) 300 ml



(B) 50ml



(C) 500 ml



(D) 60 ml

The volume of water taken in each vessel is as shown. Arrange them in the order of decreasing pressure at the base of each vessel. Explain.

15. Name the quantity whose unit is Newton(N).
16. Give one example where force changes the shape of an object.
17. What type of pressure is involved in the filling of a liquid in a syringe?
18. What force acting on, an area of  $0.5\text{m}^2$  will produce a pressure of  $500\text{pa}$ ?
19. What is a rubber sucker? How does it work? State any one use of a rubber sucker.
20. Why do mountaineers usually suffer from nose bleeding at high altitudes?
21. Explain why, wooden (or concrete) sleepers are kept below the railway line.
22. Explain why, a wide steel belt is provided over the wheels of an army tank.
23. Explain why, snow shoes stop you from sinking into snow.
24. What is meant by a contact force? Explain different types of contact forces?
25. What is meant by a non-contact force? Explain with the help of examples.
26. Define pressure. What is the relation between pressure, force and area? State the units in which pressure is measured?

27. What is meant by atmospheric pressure? What is the cause of atmospheric pressure?
28. Why are our bodies not crushed by the large pressure exerted by the atmosphere?
29. Explain why, atmospheric pressure decreases as we go higher up above the Earth's surface?
30. How does the pressure of a liquid depend on its depth? Draw a labelled diagram to show that the pressure of a liquid (water) depends on its depth.
31. Explain why the walls of a dam are thicker near the bottom than at the top.
32. Mention the necessary condition for a force to come into play.
33. In brief manner, explain the change in the state of motion.
34. Write the SI unit of pressure.
35. Give an activity to show that pressure in a liquid increases with depth.
36. Describe an activity to show that a liquid exerts equal pressure in all the direction at a given depth.
37. The rear wheels of a tractor are very wide. Explain with reason.
38. Explain and demonstrate the effect of electrostatic force.
39. When is the pressure on the ground more? When a man is lying or when a man is standing? Explain.
40. A force of 200N is applied to an object of square shape of side 2m. Calculate the pressure.
41. Where do we apply a force while walking?
42. A girl is pushing a box towards east direction. In which direction should her friend push the box so that it moves faster in the same direction?

43. Does the force of gravitation exist between 2 astronauts in space?
44. Write the effects of force when applied on a body.
45. The base of a container measures 15 m x 20 m. It is placed on a table top. If the weight of the container is 60N. What is the pressure exerted by the container on the table top?
46. When do we use the term net force?
47. Explain how to find net force.
48. A gas filled balloon moves up. Is the upward force acting on it larger or smaller than the force of gravity?
49. Define electrostatic force.
50. Define force.

## L-12

### FRICTION

#### I. MCQ

1. Which of the following produces less friction?
  - a) Sliding friction
  - b) Rolling friction
  - c) Composite friction
  - d) Static friction
2. Friction always
  - a) opposes the motion
  - b) helps the motion
  - c) both (a) and (b)
  - d) none of these
3. Friction can be reduced by using
  - a) oil
  - b) grease
  - c) powder
  - d) all of these
4. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play.
  - a) only if the objects are solid
  - b) only if one of the 2 objects is liquid.

- c) only if one of the 2 objects is gaseous  
d) irrespective of whether the objects are solid, liquid or gaseous.
5. To sharpen the blade of a knife by rubbing it against a surface, which of the following will be most suitable?  
a) stone                      b) plastic block  
c) wooden block    d) none of these
6. Friction is  
a) toe      b) friend              c) both (a) and (b)              d) none of these
7. A toy car released with the same initial speed will travel farthest on  
a) muddy surface              b) polished marble surface  
c) concreted surface              d) brick surface
8. Force of friction depends on  
a) roughness of surface      b) smoothness of surface  
c) inclination of surface      d) all of these
9. Fluids are  
a) liquids      b) gases              c) both (a) and (b)              d) none of these
10. Which of the following is responsible for wearing out of bicycle tyres?  
a) Muscular force              b) Magnetic force  
c) Frictional force              d) Electrostatic force
11. A matchstick struck on a matchbox catches fire easily because  
a) friction may cause fire              b) of chemical reaction  
c) force heated the match stick              d) none of the above.
12. Four children were asked to arrange forces due to rolling, static and sliding friction in an increasing order. Their arrangements are given below. Choose the correct arrangement.

a) rolling, static, sliding

b) static, rolling, sliding

c) rolling, sliding, static

d) sliding, static, rolling

## II. Answer the following.

13. 2 blocks of iron of different masses are kept on a cemented floor as shown in figure. Which one of them would require a larger force to move it from the rest position? Why?



14. Two boys are riding their bicycle on the same concrete road. One has new tyres on his bicycle while the other has tyres that are old and used. Which of them is more likely to skid while moving through a patch of the road which has lubricating oil spilled over it?
15. Is there a force of friction between the wheels of a moving train and iron rails? If yes, name the type of friction. If an air cushion can be introduced between the wheel and the rail, what effect will it have on the friction?
16. Cartilage is present in the joints of our body. Which helps in their smooth movement. With advancing age, this cartilage wears off. How would this affect the movement of joints?
17. The handle of a cricket bat or a badminton racquet is usually rough. Explain.
18. Explain why the surface of mortar and pestle used for grinding is etched again after prolonged use?
19. When the cutting edge of a knife is put against a fast rotating stone to sharpen it, sparks are seen to fly. Explain the reason.

20. We have 2 identical metal sheets. One of them is rubbed with sand paper and the other with ordinary paper. The one rubbed with sand paper shines more than the other. Give reason.
21. Two friends are trying to push a heavy load. Suggest a way which will make this task easier for them.
22. Which type of friction comes into play when a book kept on cylindrical pencil is moved by pushing?
23. Why is it more difficult to walk properly on a well-polished floor?
24. What enables us to fix nails in a wall and knots to be tied?
25. Why do gymnasts apply a coarse substance to their hands?
26. Why do Kabaddi players rub their hands with dry soil?
27. Name the device which is used between the hubs and axles of bicycle wheels to reduce friction.
28. What is the purpose of using ball bearing in machines?
29. Why do we sprinkle fine powder on carrom board?
30. What is drag?
31. Why are grooves provided in the soles of shoes?
32. Explain why sliding friction is less than static friction.
33. Explain the different types of friction.
34. What is meant by rolling friction.
35. Explain why a pencil will write on paper but not on glass.
36. Why is it difficult to light a matchstick by striking it on a smooth surface?
37. What happens when you rub your hands vigorously for a few seconds? Why does this happen?
38. Explain why, sportsman use shoes with spikes?

39. State 2 advantages and disadvantages of friction.
40. What is meant by lubrication? Why is it important?
41. Why are cars, aeroplanes and rockets streamlined?
42. Define friction. What are the factors affecting friction? Explain with examples.
43. What is the cause of friction?
44. Friction is a necessary evil. Why?
45. How can you reduce the drag on something moving through the air?
46. Explain why, objects moving in fluids should have streamlined shape?
47. Explain why, it is easier to drag a mat on floor when nobody is sitting on it. But much more difficult to drag the same mat when a person is sitting on it?
48. What do you mean by sliding friction?
49. Write the factors affecting fluid friction.
50. Explain with 4 examples that sometimes force of friction is desirable.

## **Chemistry**

### **Coal and Petroleum**

#### **I. Multiple Choice Questions (MCQs)**

1. Naphthalene balls are used as
  - (a) mosquito repellent
  - (b) moth repellent
  - (c) snake repellent
  - (d) bee repellent
2. The process of conversion of wood into coal is called
  - (a) carbonisation
  - (b) catagenesis
  - (c) carboniferous
  - (d) none of these



3. Petroleum is separated by using the difference in  
(a) ignition temperatures (b) melting points  
(c) freezing points (d) boiling points
4. The petroleum product which is not used as fuel is  
(a) petrol (b) kerosene (c) diesel (d) petroleum jelly
5. The product obtained by destructive distillation of coal is  
(a) coal tar (b) coke (c) coal gas (d) all of these

**II. Fill in the blanks with suitable word/s.**

1. All the things that are required to fulfil one's need are called .....
2. Anything that burns to produce energy is called a .....
3. The major component of CNG is .....
4. Petroleum is a mixture of different .....
5. When heated in air, coal burns and produces mainly ..... gas.

**III. True or False. If False correct them.**

1. CNG is more polluting than petrol.
2. 40% of electricity generation depends on coal.
3. We get naphthalene ball from coal tar.
4. Natural gas is transported through pipelines.
5. Ammoniacal liquor is formed by the solution of ammonia in oil.

**IV. Short Answer type questions**

1. Name two products that you obtain from the destructive distillation of coal. What is the residue left in' this process? Give one main use of this residue.
2. What is CNG? What are its uses?
3. The burning of fossil fuels causes air pollution. Explain.
4. None of the fuels is clean fuel. Comment.

5. Can forests help reduce the pollution caused by burning of fossil fuels? How?

**V. Assertion and Reason questions**

- a) A is correct and R is the correct explanation of A.
- b) A is correct and R is not the correct explanation of A.
- c) A is correct and R is wrong.
- d) A is wrong and R is correct.

1) Assertion (A): The resources are present in unlimited quantity in nature and are not likely to be exhausted by human activities are called Inexhaustible resources.

Reason (R): Forests, wildlife, minerals are examples Inexhaustible resources.

2) Assertion (A): The slow process of conversion of dead vegetation into coal is called catenation.

Reason (R): When heated in air, coal burns and produces mainly carbon dioxide gas.

3) Assertion (A): Petroleum is called Black gold

Reason (R): Due to its great commercial importance, petroleum is called black gold.

4) Assertion (A): Coal, petroleum and natural gas be prepared in the laboratory from dead organisms.

Reason (R): They cannot be prepared in laboratory as their formation is a very slow process and conditions for their formation cannot be created in the laboratory.

5) Statement-I: Forests, wildlife, minerals, coal, petroleum, natural gas are the examples of exhaustible resources.

Statement-II: The resources that can be exhausted by human activities are called exhaustible resources.

- a) Statement-I is true. Statement-II is false.
- b) Statement-I is false. Statement-II is true.
- c) Both statements are true.
- d) Both statements are false.

## **VI. Long Answer type Questions**

1. Discuss importance of natural gas in our daily life.
2. Describe coal and its various products along with their uses.
3. Write the names of various components of petroleum and write their uses.
4. What advice is given by PCRA for saving petrol and diesel?
5. Write notes on wise and judicious use of our exhaustible natural resource.

## **BIOLOGY**

### **Chapter 1**

#### **Crop Production and Management**

##### **I. MCQ**

1. Name the practice of growing two or more dissimilar crops in the same field one after another.  
a) Crop rotation    b) Harvesting    c) Winnowing    d) Threshing
2. The organic substances obtained from dead plants and animal wastes is  
a) Manure            b) Fertilizer        c) Irrigation        d) Agriculture
3. Compost is basically a  
a) Fertilizer        b) Manure            c) Pesticide        d) Insecticide
4. Which of the following tools would a farmer use to remove weeds from the field?  
a) Hoe            b) Plough            c) Axe                d) Cultivator
5. Which of the following statement is not true for organic manure?

- a) It enhances water holding capacity of soil.
  - b) It has a balance of all plant nutrients
  - c) It provides humus to soil.
  - d) It improves texture of soil.
6. Write the name of modern tool of sowing.
- a) Plough                      b) Hoe                      c) Seed drill              d) Sickle

**II. Assertion (A) - Reason (R)**

- a. Both A & R are true and R is the correct explanation of A.
  - b. Both A & R are true but R is not the correct explanation of A.
  - c. A is true but R is false.
  - d. Both A and R are false.
1. Assertion: Continuous cultivation of crops makes the soil poor in nutrients.  
Reason: Urea is a natural manure.
2. Assertion: Appropriate distance between the seeds is necessary.  
Reason: This will avoid overcrowding of plants.
3. Assertion: The crops grown in winter season are rabi crops.  
Reason: The crops grown in rainy season are kharif crops.
4. Assertion: The process of loosening the soil is called sowing.  
Reason: Winnowing is the method used for sowing.
5. Assertion: The grains are properly dried in the sun to reduce the moisture content in them.  
Reason: This prevents the attack by insect pests, bacteria and fungi

**III. Short Answer Questions**

- 1. Why it is necessary to dry grains before storing them?
- 2. Why it is excessive irrigation harmful to crops?
- 3. Name some common agricultural implements?
- 4. Why kharif crop cannot grown in rabi season?
- 5. Differentiate between Kharif crop and Rabi crop.

6. Write short note on seed drill.
7. What do you mean by the term irrigation?
8. Give examples of fertilizers.
9. If a handful of seeds are given to you ,how will you separate seeds from damaged ones?
10. Describe animal husbandry.
11. Why do you think removal of weeds is essential? Write any one method to control weeds.
12. What is crop rotation? Why is it important?
13. List the advantages of manure over fertilizers.
14. List The agricultural activities?

## **Chapter 2**

### **Microorganism: Friend & Foe**

#### **I. MCQ**

1. The example of protozoan is  
a) Penicillium      b) Blue green algae      c) Amoeba      d) Bacillus
2. The following is an antibiotics  
a) Alcohol      b) Yeast      c) Sodium bicarbonate      (d) Streptomycin
3. Plant disease citrus canker is caused by  
a) Virus      b) Fungi      c) Bacteria      d) None of these
4. The bread dough rises because of  
a) Kneading      b) Heat      c) Grinding      d) Growth of yeast cells
5. Plasmodium is a human parasite which causes  
a) dysentery      b) Sleeping sickness  
c) Malaria      d) All of the above

6. Which of the following is not a fungi
- a) Paramecium
  - b) Bread mould
  - c) Penicillium
  - d) Aspergillus

## II. Assertion - Reason

1. Assertion: Edward Jenner discovered the vaccine for small pox.  
Reason: Alexander Fleming discovered fermentation.
2. Assertion: Disease causing microorganisms are called pathogens.  
Reason: The flies sit on uncovered food may transfer the pathogens.
3. Assertion: Use of oil and vinegar prevents spoilage of pickles.  
Reason: Pasteurised milk can be consumed without boiling.
4. Assertion: Cholera is caused by virus.  
Reason: Rust of wheat is a bacterial disease.
5. Assertion: Cholera is caused by virus.  
Reason: When the disease causing microbe enters our body, body produces antibodies.

## III. Competency based questions.

1. What is pasteurization? How is it useful?
2. What are vaccines? How does a vaccine work?
3. Which microorganism acts as decomposers? How is this activity useful to us?
4. Describe the role of Rhizobium in maintaining soil fertility?
5. What is communicable disease?
6. Microbes will never grow in food kept inside refrigerator. Do you agree? Why?
7. What do you mean by Food preservation and Food poisoning

#### **IV. Very short Answer Type questions.**

1. What are microorganisms?
2. What is Polio?
3. What is a pathogen?
4. What is food preservation?
5. What is nitrogen cycle?
6. Name two parasitic protozoa that cause diseases in human?
7. What is fermentation?

## **History**

### **Chapter 1**

#### **THE MODERN PERIOD**

1. Earlier history revolved around the life of .....
2. The arrival of British marked the beginning of which period in India?
3. The British rule in India is described as ..... period by the Indian historians .
4. Revolt of 1857 is also known as .....
5. It is easier to define dates for events in ..... history.
6. Where are the main source of information regarding the modern period?
7. Where are the literary sources preserved in India?
8. When was the first issue of newspaper Harijan was published?
9. Book written by Dadabhai Naoroji which highlighted the exploitative nature of British.
10. Name the two newspapers that revealed the real intentions of British.
11. How history should be interpreted?
12. Why did the British preserve official documents?

### **Chapter 2**

#### **THE EXPANSION OF BRITISH POWER**

1. Name the trading company started by British to trade with India.
2. Name any five countries that setup their base in India for trades.
3. Which are the two European power who were involved in the carnatic wars.
4. Rulers of Bengal who tried to check the officials of the company.
5. Which war was fought between Siraj-ud-Daulah & British in 1757?
6. .... and ..... betrayed Siraj-ud-Daulah in the Battle of Plassey.
7. What type of Government was established in Bengal after the battle of Boxar?



8. Capital of Tipu Sultan's Emperor.
9. Under which system a 'Resident' will be stationed at the ruler's court.
10. Who was the ruler of Awadh during the time of its annexation?
11. Who setup the fort William College at Calcutta?
12. What is civil and criminal court at district level in India known as ...
13. .... and ..... gave a proper shape to the judicial set up.
14. A crime where highway robbers killed travellers and escape with their valuables.
15. Who set up the Fort William College at Calcutta?
16. What is the hindi version of the word 'sepoys'?
17. Who was the first Indian to join the Indian Civil Service?
18. Name the 4 agencies that carry out the day-to day administration of the district.
19. The Presidencies was administered by a .....
20. Name two policies adopted by the British to expand their territory in India.
21. Mention the events related to these years
 

a) 1793	b) 1801	c) 1843	d) 1757
e) 1764	f) 1799		

**Answer the following.**

1. Who introduced the policy of doctrine of Lapse and explain the main features.
2. It was difficult for Indians to get selected in Civil Service. Give reasons.
3. Write a paragraph about
  - a) Maharaja Ranjit Singh
  - b) Tipu Sultan
  - c) Siraj-ud-Daulah

## **Social and Political Life**

### **Chapter 1**

#### **THE CONSTITUTION AND THE NEED FOR LAWS**

1. A ..... is an essential principle a standard or a guide for action.
2. The constitution is also regarded as the ..... of a country.
3. Which country has an unwritten constitution?
4. What is the full form of PNDT and when was this act came into effect.
5. The Dandi March marked the beginning of the ..... movement.
6. When did the Indian constitution came into effect?
7. What does rule of law implies?
8. The fundamental rights of the people can be declared null and void by the .....
9. Write a short note on Salt Satyagraha.
10. Explain the concept - Role of Law.

## **Geography**

### **Chapter 1**

#### **RESOURCES**

##### **I. True or false.**

1. Gold and silver are the example of localized resources.
2. Renewable resources are exhaustible resources.
3. Biotic resources have the capacity to reproduce.
4. Resources created by human beings are human made resources.
5. Fossil fuel is the example of exhaustible resources.

##### **II. Fill in the blanks.**

1. The force of falling water is used to generate .....
2. Resources which are found at certain place are known as .....

3. .... and ..... are the two main factors which can change substance into a resource.
4. On the basis of development, resource can be divided into ..... and .....
5. The resources whose total available quantity is not known at present are called .....

**III. Choose the correct answer.**

1. Which one of the following is a biotic resource?  
a) forest    b) water    c) mineral    d) land
2. Which one of the following statement is correct?  
a) soil is a non renewable resource.  
b) The greatest resource of the earth is human beings.  
c) The continuous rise in population caused an increasing demand for resource  
d) none of these
3. Which one of the following is a human made resources?  
a) mineral oil    b) fossil fuel    c) soil    d) technology
4. Which one of the following is an ubiquitous resources?  
a) gold    b) silver    c) sunlight    d) iron ore
5. Which one the following statement is correct?  
a) human wants are limited  
b) resources are unlimited on the earth.  
c) human beings use their knowledge and skill to development technology  
d) The concept of sustainable development is study of human resource.

#### **IV. Short answer questions**

1. Differentiate between renewable and non-renewable resources.
2. “The utility and availability of natural resources unique” - Explain the factors determining the natural resources.
3. What are resources?
4. Explain the role of human made resources in the modern world.
5. How can we convert gift of nature into a resource in the future?

#### **V. Higher Order Type questions**

1. ‘The consequences of environmental degradation is not limited to a region’ . Do you agree with this statement? (Give your views)
2. A developing country like in India should invest more on Human Resource. How can we invest on Human resource. Explain.

### **Chapter 2**

#### **NATURAL RESOURCES - LAND, SOIL AND WATER**

##### **I. True or false.**

1. Land covers about 29% of the total surface area of the earth.
2. Alluvial soil is also known as black lava soil.
3. Leaching of soil is common in Horizon A.
4. Alluvial soil very fertile.
5. Parent rock will affect the formation of the soil.

##### **II. Fill in the blanks.**

1. .... soil can be made fertile by adding manure and chemical fertilizer.
2. .... is locally called regur.
3. .... is common in Horizon A
4. .... helps the natural forces to replenish soil fertility.
5. Vertical section of soil from the surface to the parent rock is known as .....

### III. Choose the correct answer.

1. Which among the following is not a factor responsible for soil formation?  
a) relief    b) time                  c) climate                  d) fertilizer
2. Which one of the following is not a cause of soil erosion?  
a) deforestation    b) velocity of the wind  
c) overgrazing    d) fallowing
3. Which one of the following statement is true?  
a) About 81% of the total surface area of the earth is covered with water.  
b) Fertility of the soil can be regained through intensive manuring  
c) Desert soil is found in peninsular India.  
d) Laterite soil is found in Deccan Trap.
4. Which among the horizon contains humus in it  
aa) Horizon A    b) Horizon B    c) Horizon C    d) Horizon D
5. The cultivation of land depends upon  
a) technology    b) fertility of soil  
c) fertilizers    d) all the above

### IV. Short answer questions

1. Suggest some measures to use the land efficiently.
2. "Different physical and cultural factors cause soil erosion". Explain.
3. Which soil is suitable for sugar cane cultivation? Explain the features of the soil type.
4. How relief and climate affect the formation of soil?
5. What do you mean by soil profile?
6. How can you conserve water resources in India?

## **V. Higher Order Type questions**

1. At present, the demand for freshwater has increased due to produce more food, to meet domestic needs etc. In this situation, what you can do to conserve water resources.
2. If the soil cover is removed, our planet would become a barren and lifeless as the moon. Hence suggest measures to conserve soil.

## **VI. Map questions**

1. Mark and locate
  - a) Areas under desert soil and mountain soil
  - b) Rivers -Ganga, Narmada, Brahmaputra

**Mathematics**  
**Chapter - 1**  
**RATIONAL NUMBERS**

**I. Choose the correct answer:**

1. How many rational numbers are there between any two given rational numbers  
a) only one    b) only two    c) infinite    d) nothing can be said
2. A integer can be  
a) only positive    b) only negative  
c) both +ve and -ve    d) none of these
3. Associative property for rational number is applicable to  
a)  $\times$  and +    b) + and -    c) - and  $\div$     d)  $\times$  and  $\div$
4. The multiplicative inverse of  $\frac{1}{2}$  is  
a)  $-\frac{1}{2}$     b) 2    c) -2    d) 1
5. Which of the following statement is true?  
a)  $\frac{7}{9} < \frac{9}{11} < \frac{11}{13}$     b)  $\frac{9}{11} < \frac{11}{13} < \frac{7}{9}$   
c)  $\frac{9}{11} < \frac{7}{9} < \frac{11}{13}$     d)  $\frac{7}{9} < \frac{9}{11} < \frac{11}{13}$
6. Which one of the following lies between  $\frac{3}{7}$  and  $\frac{6}{7}$   
a)  $\frac{9}{7}$     b)  $\frac{9}{14}$     c)  $\frac{9}{2}$     d)  $\frac{2}{7}$

**II. Do as directed**

7. Fill in the blanks with ' $<$ ', ' $>$ ' or ' $=$ ' symbols.

a)  $-\frac{5}{6} \square -\frac{3}{7}$     b)  $\frac{3}{4} \square \frac{6}{8}$     c)  $-\frac{6}{11} \square \frac{7}{8}$     d)  $\frac{25}{100} \square -\frac{6}{112}$

8. Using appropriate properties find:

a)  $\frac{2}{7} \times \left(\frac{-3}{2}\right) + \frac{4}{5} \times \left(\frac{-2}{7}\right) - \frac{1}{6} \times \left(\frac{-2}{7}\right)$

b)  $-\frac{4}{5} \times \frac{3}{7} + \frac{4}{5} \times \frac{2}{7} - \frac{1}{7} \times \frac{4}{5}$

c)  $\frac{2}{5} \times \frac{-3}{7} - \frac{3}{5} \times \frac{3}{7} - \frac{1}{14}$

d)  $\frac{2}{3} \times \frac{-1}{6} + \frac{1}{5} - \frac{2}{3} \times \frac{11}{5}$

e)  $\frac{9}{2} \times \frac{3}{7} + \frac{3}{5} \times -\frac{9}{2}$

### III. Answer the following

9. Represent the following rational numbers on number line (draw separate numberlines)

a)  $\frac{-3}{10}$     b)  $\frac{-11}{12}$     c)  $\frac{9}{4}$     d)  $\frac{-7}{6}$

10. Find 7 rational numbers between  $\frac{-2}{5}$  and  $\frac{1}{2}$

11. Is  $\frac{31}{40}$  lies between  $\frac{4}{5}$  and  $\frac{3}{4}$  ?

12. Subtract the sum of  $\frac{-8}{7}$  and  $\frac{-5}{3}$  from the sum of  $\frac{3}{2}$  and  $\frac{-31}{28}$ .

13. Divide the sum of  $\frac{-3}{4}$  and  $\frac{-5}{12}$  by their product.

14. Find 10 rational numbers greater than -10.

15. Find 5 rational numbers between  $\frac{1}{4}$  and  $\frac{-1}{2}$ .



16. The area of rectangle is  $145\frac{5}{6}$  sq.cm. If it is  $17\frac{1}{2}$  cm long, find its width.
17. What should be added to  $\frac{-7}{8}$  so as to get  $\frac{5}{9}$  ?
18. What should be added to  $\left(\frac{1}{2} + \frac{1}{3} + \frac{1}{5}\right)$  to get 3?
19. By what number should  $\frac{-3}{4}$  be multiplied in order to get  $\frac{2}{3}$  ?
20. What number should be subtracted from  $\left(\frac{3}{4} - \frac{2}{3}\right)$  to get  $\frac{-1}{6}$ ?
21. For  $a = \frac{2}{3}$ ,  $b = \frac{-5}{6}$  and  $c = \frac{1}{2}$ , prove that  $a \times (b+c) = (a \times b) + (a \times c)$ .  
Identify the property.
22. Multiply  $\frac{8}{7}$  by the reciprocal of  $-2\frac{5}{7}$ .
23. Find the next rational number in the given pattern  
 $\frac{-1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \dots$
24. Name the property used in the following
- a)  $\frac{-5}{16} \times \frac{8}{15} = \frac{8}{15} \times \frac{-5}{16}$
- b)  $\frac{-13}{17} \times 1 = \frac{-13}{17} = 1 \times \frac{-13}{17}$
- c)  $\frac{-7}{5} + \left(\frac{3}{4} + \frac{-1}{3}\right) = \left(\frac{-7}{5} + \frac{3}{4}\right) + \frac{-1}{3}$
- d)  $\frac{7}{4} \times \left(\frac{-8}{3} + \frac{2}{5}\right) = \left(\frac{7}{4} \times \frac{-8}{3}\right) + \left(\frac{7}{4} \times \frac{2}{5}\right)$

#### IV. Fill in the blanks.

25. The product of a rational number and its reciprocal is .....

26.  $\frac{-9}{14} \times \dots = \frac{-9}{14}$

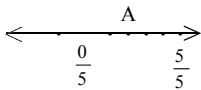
27.  $\frac{-7}{9} + \dots = 3$

28. The numbers ..... and ..... are their own reciprocals.

29. The product of 2 rational numbers is always .....

30. The number which does not have a reciprocal is .....

31. The point A represents the rational number .....



32. Find the multiplicative inverse of the following.

- a) -7      b)  $\frac{-3}{-5}$       c)  $\frac{-5}{8} \times \frac{16}{15}$       d) -1      e)  $-2 \times \frac{-3}{5}$

33. Find additive inverse of the following.

- a)  $\frac{-7}{5}$       b)  $\frac{-10}{-11}$       c) 0      d)  $\frac{-2}{3} \times \frac{9}{4}$       e)  $\frac{12}{-5}$

### Chapter - 2

### LINEAR EQUATIONS IN ONE VARIABLE

I. Match the following:-

Equation	Solution
1. $4.2 = \frac{x}{5}$	A. $\frac{29}{10}$
2. $\frac{-2}{5} + x = \frac{5}{2}$	B. 7
3. $\frac{15x}{4} = 45$	C. 21
4. $\frac{4m-3}{5} = 5$	D. 4
5. $5=3y-7$	E. 12

## II. Choose the correct answer.

6. A number when added to  $\frac{3}{4}$  of 28, gives 30. Find the number.  
a) 51      b) 21      c) 23      d) 9
7. If  $t = \frac{1}{2}x + \frac{3}{2}$ , find  $2t$   
a)  $2x+3$       b)  $x + 3$       c)  $x + 12$       d)  $x + 6$
8. Identify the linear equation in one variable from the following.  
a)  $3z^2-12 = 0$       b)  $\frac{1}{4}y - 7 = 0$   
c)  $x^2+x^3 = 2$       d)  $5x + 3y + z = 10$
9. If the sum of two consecutive natural numbers is 29, then the larger number is  
a) 13      b) 14      c) 16      d) 15
10. If 6 times the price of a book is ₹40 less than 8 times its price, then the price of the book is  
a) 80      b) 20      c) 38      d) 42

## III. Solve the following linear equations

11.  $4x + 6 = 5(x-1) + 7$
12.  $\frac{x}{4} - \frac{x-3}{6} = 1$
13.  $5 : x = 1.25 : 2.5$
14.  $\frac{4x + 2}{2x + 16} = \frac{1}{3}$
15.  $p = \frac{1}{3}(6p + 12)$
16.  $4y + \frac{10}{3} = \frac{25}{3} - y$
17.  $40\% \text{ of } x + 20\% \text{ of } x + \frac{1}{10} = 75\% \text{ of } x$

18.  $3(5t - 7) - 2(9t - 11) = 4(8t - 13) - 17$

19.  $0.5(8m - 6) = 0.1(20m - 10)$

20.  $2 + \frac{t - 4}{2} + \frac{6t}{3} = t + \frac{3}{2}$

21.  $\frac{4x - 6}{3 + 8x} = \frac{-4}{3}$

22.  $\frac{5x + 2}{2} - 3 = \frac{5x - 5}{8}$

23.  $5x + \frac{7}{2} = \frac{3}{2}x - 14$

24.  $\frac{x}{2} + \frac{5x}{4} - \frac{x}{8} - \frac{3x}{2} = \frac{1}{4}$

25.  $2\left(x + \frac{11}{4}\right) = 13$

**IV. Answer the following.**

26. The difference between the digits of a 2 digit number is 7. If the digits are interchanged and added with the original number, we get 121. What is the original number?

27. One-fourth of a number is 7 less than twice that number, then find the number.

28. Sheetal has a total of Rs. 590 as currency notes in the denominations of rs. 50, Rs. 20, and Rs. 10. The ratio of the number of Rs. 50 notes and Rs. 20 notes is 3 : 5. If she has a total of 25 notes, how many notes of each denomination she has?

29. Eight years ago, a mother's age was 11 times that of her son. The sum of their present ages is 40 years. Find their present ages.

30. The numerator of a rational number is greater than its denominator by

6. If the numerator and denominator are increased by 7 and 1, respectively the number obtained is  $\frac{5}{2}$ . Find the rational number.
31. Two numbers are in the ratio 3:5. If 8 is added to both of them, then their ratio becomes 2 : 3. Find the numbers.
32. The present ages of Shalini and Raju are in the ratio 3 : 4. If the ratio of their ages becomes 5 : 6 after 12 years, then find the ages of Raju after 12 years.
33. If one-fourth of a number is 7 less than twice that number, then find the number.
34. The sum of two numbers is 1210. If one of the numbers is 10% of the other, find the numbers.
35. The sum of three consecutive multiples of 12 is 432. Find the multiples.

**V. Fill in the blanks.**

36. The sum of a number and  $\frac{1}{4}$  of the same number is 30, then the required number is .....
37. If the area of a triangle is 48cm and its base is 12cm, then its vertical height is .....cm.
38. If we multiply a number by 3, we get 8 more than half of that number. Then the number is .....
39. A linear equation in one variable has ..... solution.
40. 5 is added to thrice a number x gives 20. The value of x is .....
41. The perimeter of a rectangle is 12m and its width is 2m its length is....
42. Sum of 3 consecutive even numbers is 36. Then largest number is .....
43. If  $x=2$ , then the value of  $4.4x - 3.8$  is .....
44. If  $\frac{5y}{3} + \frac{2}{5} = 1$  then  $y = \dots\dots\dots$

45. A piece of rope  $k$  meters long is cut into 8 parts, then the length of each part is .....

**Chapter - 5**  
**DATA HANDLING**

**I. Choose the correct answer.**

1. In the interval 0-10, 10 is called the  
a) lower unit      b) upper limit      c) range      d) frequency
2. The range of the data:  
6, 14, 20, 16, 6, 5, 4, 8, 18, 25, 15 and 5 is  
a) 4      b) 21      c) 25      d) 20
3. The class width of the class 300-325 is  
a) 100      b) 25      c) 50      d) 20
4. The central total angle of a pie chart is  
a)  $180^\circ$       b)  $210^\circ$       c)  $360^\circ$       d)  $90^\circ$
5. 18 out of 36 people love reading. So reading in the pie chart will be represented by  
a)  $36^\circ$  sector      b) quarter sector  
c) semi circular sector      d) none of these
6. The Pie-chart is divided into  
a) circles      b) squares      c) sectors      d) segments
7. The number of times an observation occurs in a data is called its  
a) Range      b) Interval      c) Frequency      d) Raw data
8. Which of the following is the probability of an impossible event?  
a) 1      b) 0      c) Between 0 and 1      d) more than 1
9. When a die is thrown total number of possible outcomes is  
a) 6      b) 36      c) 2      d) 12



Faculty	Science	Arts	Commerce	Law	Education	Total
no. of students	1000	1200	650	450	300	3600

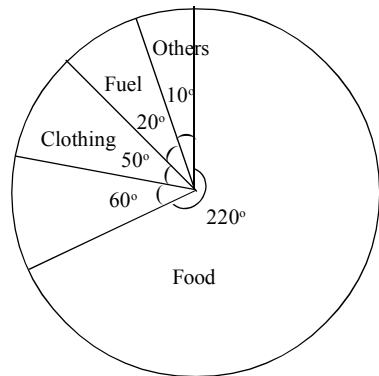
17. The following table shows the expenditure incurred by a publisher in publishing a book: Draw a pie diagram for this.

Items	Paper	Printing	Binding	Advertising	Miscellaneous
Expenditure in (%)	35%	20%	10%	5%	30%

18. Draw a pie-diagram representing the relative frequencies (expressed as %) of the eight classes as given below.

12.6, 18.2, 17.5, 20.3, 2.8, 4.2, 9.8,  
14.7

19. The pie chart shown represents the expenditures of a family on different items. Find the percentage expenditures on different items by reading the pie chart.



20. The following table represents the amount spent on different sports by a sports club. Represent it through a pie chart.

Hockey	30,000
Cricket	45,000
Football	18,000
Tennis	15,000

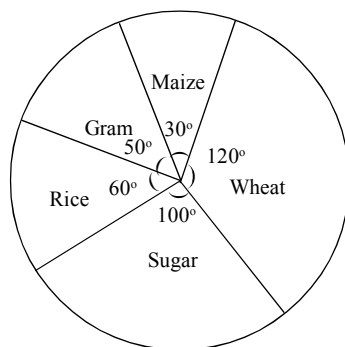


11. The following data relates to the cost of construction of a house.

Draw a pie diagram to represent the data.

Items	Cement	Steel	Bricks	Timber	Labour	Miscellanrous
Expenditure	30%	10%	10%	15%	25%	10%

12. The pie-chart shows the annual agricultural production of an Indian state. If the total production of all the commodities is 81000 tonnes, find the production (in tonnes) of



- i) wheat    ii) sugar            iii) rice  
iv) maize    v) gram

## Chapter - 6

### SQUARES AND SQUARE ROOTS

#### I. Choose the correct answer.

- What is the units' digit of the number if its square ends in 6?  
a) 4            b) 6            c) either 4 or 6            d) neither 4 nor 6
- How many times does 3 occurs in the prime factorisation of 144?  
a) 3            b) 2            c) 1            d) 0
- If the area of a square is  $400 \text{ cm}^2$ , then the length of its side is  
a) 20cm            b) 40cm            c) 10 cm            d) 200 cm
- Which one of the following is the smallest 3-digit perfect square?  
a) 100            b) 111            c) 107            d) 121
- Find area of a square of side 2.1 cm  
a)  $4.41 \text{ cm}^2$             b)  $441 \text{ cm}^2$             c)  $0.441 \text{ cm}^2$             d)  $4410 \text{ cm}^2$

## II. Fill in the blanks.

6. If a perfect square has 7 digits, then its square root will have ..... digits.
7. The nearest whole number to  $\sqrt{40}$  is .....
8. If  $a = 169$  then  $\sqrt{a} = \dots\dots$
9. The number of digits in the square root of 36,000000 is .....
10. The least number to be subtracted from 38 to get a perfect square is .....
11. The expression for  $17^2$  as the sum of two consecutive natural numbers are ..... and .....
12. There are ..... perfect squares from 1 to 100
13. There are ..... non-perfect squares numbers between the squares of the numbers 80 and 81.
14. Finding the square root is the ..... operation of squaring.
15. Positive square root of a number is denoted by the symbol .....

## III. Do as directed.

16. The students of a school have to stand for prayer in such a way that each row contains as many students as the number of rows. If the total number of students in the school is 1024, find the number of students in each row.
17. Find the smallest square number which is divisible by each of the numbers 2,3 and 4
18. Find the smallest multiple of 512 which gives a perfect square. Also find the square root of that number.
19. Find the value of each of the following without calculating the squares.  
i)  $27^2 - 26^2$                   ii)  $118^2 - 117^2$
20. Find the square root of the following using prime factorisation

a) 5776      b) 4096      c) 7056      d) 2304      e) 6400

21. Find the least number which is divisible by each of the numbers 4,8 and 12.
22. Find the square root of the following using division method.  
a) 17.64      b) 13.69      c) 5.29  
d) 11664      e) 47089      f) 7744
23. Simplify  $\sqrt{900} + \sqrt{0.09} + \sqrt{0.0009}$
24. The area of a rectangular field whose length is twice its breadth is  $2450\text{m}^2$ . Find the perimeter of the field.
25. Find the length of a diagonal of a rectangle with dimensions 20 m by 15 m.
26. Find the least square number which is exactly divisible by 3, 4, 5, 6 and 8
27. Find the smallest number by which 9408 must be divided so that it becomes a perfect square. Also, find the square root of the perfect square so obtained.
28. What should be subtracted from 6249 to get a perfect square number? Also find its square root.
29. If  $\frac{x}{\sqrt{2.25}} = 550$ , find the value of x.
30. Which of the following triplets are pythagorean  
i) (14,48,50)      ii) (18,79,82)

\*\*\*\*\*