NIRMALA MATHA CENTRAL SCHOOL, THRISSUR

CLASS VIII

QUESTION BANK

TERM II

2022-23

English

Emperors on Ice

1. Name the trio who set out for an expedition to Cape Crozier, what did they carry along with them?
2. What happened to the sledging party during the year 1901-04?
3. Explain the make of 'Terra Nova'.
4. 'Our lives had been taken away and given back to us' - what made Cherry write these lines in his book?
5. What does the book 'The worst journey in the world' explain in the lesson?

Journey to the Centre of the Earth

1. What are the 3 terrains referred to in the story?
2. How is the forest in the story different from the usual forest?
3. Explain briefly the appearance of the prehistoric shepherd.
4. Highlight the places that you have experienced 'foreshadowing' in the story.
5. Whose initials were carved in the granite? What was his contribution to the story?

The Diamond Maker

1. How does the narrator describe the Stranger?
2. What hardships did the stranger face to let the flame burning?
3. How does the stranger explain the making of diamonds?
4. How did the diamond maker earn money for his experiment?
5. What made the begging letter writer inform the police?
6. Why does the narrator regret for not buying the diamonds?

Feathered Friend

1. How does the author portray Sven Olsen in the lesson?
2. Was Claribel comfortable in the space station? Explain.
3. What made Sven Lament?
4. What can one expect on their visit to the space station?
5. How did they manage to hide Claribel when VIPs from Earth came visiting the space station.

Poem: The Choice

1. How does the poet describe the landing of the space craft?
2. When and where did they examine the source of information?

Imagination

1. Where did he go hunting and fishing?
2. Name the book referred here.
3. With whom did the poet spent his time in Africa and America?
4. What happened to the poet when he grew up?

പാഠം 9

കുറ്റിപ്പുറം പാലം

1. എത്ര ലക്ഷം ചിലവാക്കിയാണ് കുറ്റിപ്പുറം പാലം നിർമ്മിച്ചത്?
2. അഭിമാനപൂർവ്വം കവി കയറി നിൽക്കുന്നത് എവിടെ?
3. കുറ്റിപ്പുറം പാലത്തിനടിയിൽകൂടി ഒഴുകുന്ന പുഴ ഏത്?
4. "ചേതസ്സിങ്കലറിയാത്ത വേദന" കവിയുടെ മനസ്സിൽ വേദന ഉണ്ടാക്കിയത് എന്ത്?
5. പിറവി തൊട്ട് കവിയുടെ കൂട്ടുകാരി ആയത് ആര്?
6. അലരിന്മേൽ വാഴ്ച തുടങ്ങിയത് എന്ത്?
7. ശാന്തഗംഭീരമായിപ്പൊങ്ങിനിൽക്കുന്നത് എന്ത്?
8. യന്ത്രക്കിടാവ് എറിയുന്ന പമ്പരംപോലെ കറങ്ങി നിൽക്കുന്നത് എന്ത്?
9. നരനൊരു യന്ത്രമായാൽ അഴുക്കുചാലായി മാറുന്നത് എന്ത്?
10. ഇടശ്ശേരിയുടെ പ്രശസ്ത നാടകം.

പാഠം 10

നാട്ടുവെളിച്ചം നിറഞ്ഞ വഴി

1. കുഞ്ഞുണ്ണിമാഷിന്റെ മേശപ്പുറത്ത് അടുക്കടുക്കായി വെച്ചിരിക്കുന്ന കത്തുകളിൽ ലേഖകൻ തിരഞ്ഞിരുന്നത് ആരുടെ കൈയക്ഷരമാണ്?
2. ഒ.വി. വിജയൻ തന്റെ ഒരു കത്തിൽ കുഞ്ഞുണ്ണിയെ വിളിച്ചിരുന്നത് എങ്ങനെ?
3. കുട്ടികളുടെ കവി എന്ന് അറിയപ്പെടുന്നത് ആര്?
4. വിഡ്ഢിശിപായിയായി ലേഖകൻ കാണുന്നത് ആരെയാണ്?
5. "താൻ താൻ നിരന്തരം ചെയ്യുന്ന കർമ്മങ്ങൾ
   താൻ താൻ അനുഭവിച്ചീടുകെന്നേ വരൂ" – ആരുടെ വരികളാണ് ഇത്?
6. കുഞ്ഞുണ്ണികവിതയുടെ കേന്ദ്രപ്രമേയം എന്ത്?
7. ഭക്തിയില്ലാത്ത പൂന്താനം ആര്?
8. സമകാലീന കവികളിൽ ആരുമായാണ് കുഞ്ഞുണ്ണിക്ക് ചാർച്ച?
9. വലിയ ഒരു കാര്യമായി തന്നെ കുഞ്ഞുണ്ണി കരുതിയിരുന്നത് എന്ത്?
10. എന്താണ് പരംപൊരുളായിട്ടുള്ളത്?

പാഠം 11

വീടിനെക്കുറിച്ചുള്ള അവസാനത്തെ കവിത

1. വീടു പണിതുയർത്താനുള്ള ചെളി കുഴച്ചെടുത്തത് എന്തുകൊണ്ടാണ്?
2. വീടിന് വെൺകളി പൂശിചാരുത നൽകിയത് എന്തുകൊണ്ട്?
3. ഓരോ പിറവികളും കുഞ്ഞിക്കാലടികളും വീടിനെ എന്താക്കിമാറ്റി?
4. ഇടയ്ക്കിടെ പാളിയെത്തുന്ന ഇടിമിന്നലിന് വീട് എന്തുപോലെയാണ് തോന്നിയത്?
5. ഇലകൾ തുന്നിച്ചേർത്ത് കൊഴിഞ്ഞുവീഴാത്ത കൂടായികാക്കുന്നത് എന്തിനെ?
6. വീടിന്റെ ഓരോ കല്ലടർത്തുമ്പോഴും ചീറ്റുന്നത് എന്ത്?
7. വീടിന്റെ തറതല്ലിപ്പൊട്ടിക്കുമ്പോൾ തേങ്ങലുതീർക്കുന്നത് എന്ത്?
8. അഗ്നിയും പുകച്ചുരുളുകളുമായി പ്രേതങ്ങൾ ഉയരുന്നത് എവിടെനിന്ന്?
9. കുഞ്ഞുങ്ങളുടെ അറ പൊളിക്കുമ്പോൾ കവി ഓർത്തത് എന്ത്?
10. ഒരു പെണ്ണിന്റെ സ്നേഹവാത്സല്യങ്ങളും സ്വപ്നങ്ങളും തങ്ങിനിന്നിരുന്നത് എവിടെ?
11. വാഴ്വിൻ സൗഖ്യം എന്ന് പറയുന്നത് എന്ത്?
12. ഇരുട്ടിന്റെ മഷിയാൽ എഴുതുന്നത് എന്ത്?
13. പനയോലയായിതീരുന്നത് എന്ത്?
14. മഹാഭാരതകഥ വീണ്ടും എഴുതുന്നത് എന്തുകൊണ്ട്?

പാഠം 12

പൊട്ടിപുറത്ത്

1. “ഇന്നാണ് ചേട്ടാഭഗവതിയെ വീട്ടിൽ നിന്ന് അടിച്ചു പുറത്താക്കുക.” എന്നാണ് ആ ദിവസം?
2. ‘എനിക്കവന്റെ ചിങ്കിനു നിൽക്കാൻ വയ്യ” ഇങ്ങനെ പറഞ്ഞതാര്?
3. പൊട്ടി’യെന്നു കേട്ടപ്പോൾ ഉണ്ണിക്കുട്ടന്റെ മനസ്സിൽ തെളിഞ്ഞുവന്ന രൂപം ആരുടെയാണ്?
4. ഉണ്ണിക്കുട്ടന്റെ വീട്ടിൽ ചേട്ടാഭഗവതിയെ അടിച്ചു പുറത്താക്കാൻ നിയോഗിക്കപ്പെട്ടതാരാണ്?
5. എവിടെ നിന്നാണ് ഉണ്ണിക്കുട്ടൻ കാളിയമ്മയുടെ ശബ്ദം കേട്ടത്?

6. മുറവും മുറത്തിലെ സാധനങ്ങളും കാളിയമ്മ എവിടെയാണ് കളഞ്ഞത്?
7. ഉണ്ണിക്കുട്ടന്റെ അമ്മ മുറികളിൽ എന്താണ് പുകച്ചത്?
8. പൊട്ടിയെ പുറത്താക്കുന്നത് കാണാൻ സാധിക്കാത്തത് ആർക്ക്?
9. 'അട്യേൻ വെടൊള്ളട്ടെ' ഇങ്ങനെ മുത്തശ്ശിയോട് സമ്മതം ചോദിച്ചതാര്?
10. നന്തനാർ എന്ന തൂലികാനാമത്തിൽ അറിയപ്പെടുന്ന നോവലിസ്റ്റ് ആര്?

പാഠം 13

കാർട്ടൂൺ

1. ഇന്ത്യയിലെ ഏറ്റവും മഹാനായ കാർട്ടൂണിസ്റ്റ് ആര്?
2. ആറു കുരുടന്മാർ ആനയെ കാണാൻ പോയകഥ അടിസ്ഥാനമാക്കി കാർട്ടൂൺ വരച്ചത് ആര്?
3. രാഷ്ട്രീയനേതാക്കളുടെ വാചകമടിയെകുറിച്ച് കാർട്ടൂൺ വരച്ചത് ആര്?
4. കാർട്ടൂണുകളിൽ പ്രകാശം പൊഴിക്കുന്നത് എന്ത്?
5. കാർട്ടൂണിസ്റ്റുകൾ കാലുതൊട്ടുവന്ദിക്കേണ്ടതാരെയാണ്?
6. ഓരോ കാർട്ടൂണുകളിലും കാർട്ടൂണിസ്റ്റുകളുടെ മുഖ്യപ്രമേയം എന്ത്?
7. "തിരസ്കാരത്തിന്റെയും ആവലാതിയുടെയും കലയാണ്" - ഏത്?
8. ആരോഗ്യകരമായ വിമർശനത്തിനു ഹാസ്യത്തിന്റെ മധുരപ്പാവിടുന്നത് ആര്?
9. എൻ.പി. മുഹമ്മദിന് കേന്ദ്രസാഹിത്യ അക്കാദമി അവാർഡ് നേടിക്കൊടുത്ത കൃതിയേത്?

പാഠം 14

കാറ്റേ കടലേ

1. രാത്രിയിൽ എടുത്തുവെക്കാൻ മറന്ന കിണ്ടി കളവുപോയതുപോലെ പുലർച്ചയ്ക്ക് കളവുപോയത് എന്ത്?
2. കവിയുടെ വീട് എവിടെയാണ്?
3. കുന്നുകളായ കുന്നുകളെല്ലാം ഇന്ന് എവിടെയ്ക്കാണ് പോകുന്നത്?
4. പേരുവിളിക്കുമ്പോൾ വരിവരിയായി ലോറിയിൽ കയറേണ്ട കുന്നുകൾ ഏതെല്ലാം?

5. നിരപ്പാക്കിയ കുന്ന് തലയിൽ ചുമന്ന് നിൽക്കുന്നത് എന്താണ്?
6. തലയ്ക്കുമീതെ പായുന്നത് എന്താണ്?
7. അപ്പുറത്തും ഇപ്പുറത്തും ആകാൻ പോകുന്നത് എന്ത്?
8. ബഷീറിന്റെ മതിലുകൾ എന്ന നോവലിൽ ചുള്ളിക്കമ്പ് എറിയുന്ന കഥാപാത്രം ആര്?
9. പി.പി. രാമചന്ദ്രൻ പുനരാഖ്യാനം ചെയ്ത കവിത ഏത്?
10. 'കാറ്റേ കടലേ' എന്ന കവിത എഴുതിയത് ആര്?

പാഠം 15

ദൈവം സത്യം കാണുന്നു. 'പക്ഷേ' വൈകിപ്പോകുന്നു

1. ആക്സിയാനോവ് എന്ന യുവവ്യാപാരി ഏത് പട്ടണത്തിലായിരുന്നു താമസിച്ചിരുന്നത്?
2. സിനിമയിലെ വ്യാപാരമേളയ്ക്ക് പോകാൻ തയ്യാറായ ആക്സിയാനോവിനെ ഭാര്യ തടയാൻ കാരണമെന്ത്?
3. ആക്സിയാനോവിന്റെ ഭാര്യ കണ്ട ദുഃസ്വപ്നം എന്തായിരുന്നു?
4. ആക്സിയാനോവിനെ കൈകാലുകൾ കയറുകൊണ്ടു ബന്ധിച്ചപ്പോൾ ആക്സിയാനോവ് ചെയ്തത് എന്ത്?
5. ആക്സിയാനോവിന് സഹായം അഭ്യർത്ഥിക്കാൻ കഴിയുന്നത് ആരോടാണ്?
6. ഏത് കാരാഗൃഹത്തിലേയ്ക്കാണ് അക്സിയാനോവിനെ കൊണ്ടുപോയത്?
7. എത്ര വർഷമാണ് ആക്സിയാനോവിന് ശിക്ഷ ലഭിച്ചത്?
8. ജയിലിൽ ബൂട്ടുകൾ ഉണ്ടാക്കി കിട്ടിയ കൂലികൊണ്ട് ആക്സിയാനോവ് വാങ്ങിയത് എന്താണ്?
9. ജയിലിൽ കഴിഞ്ഞിരുന്ന കുറ്റവാളികൾ ആക്സിയാനോവിനെ വിളിച്ചിരുന്നത് എങ്ങനെയാണ്?
10. വ്യാപാരിയെ കൊലപ്പെടുത്തിയ യഥാർത്ഥകുറ്റവാളി ആരായിരുന്നു?

HINDI

Lesson 8

यह सबसे कठिन समय नहीं

1. चिडिया की चोंच में क्या दवा है?
2. भीड़ कहाँ है?
3. कौन कहानी सुना रही थी?
4. नानी किसको कहानी सुना रही थी?
5. 'यह सबसे कठिन समय नही' इसका कवि कौन है?

Lesson 9

कबीर की साखियाँ

1. साधू से क्या पूछना नही चाहिए?
2. किसको महत्व देना चाहिए?
3. माला कहाँ फिरता है?
4. कबीर किसकी निंदा नहीं करने को कहते है?
5. आँख में क्या पड़ने से दुख होता है?
6. जग में किसको बैरी नहीं है?

Lesson 10

कामचोर

1. बहुत वाद विवाद के बाद क्या तय हुआ?
2. काम करने पर बच्चों को क्या दिया जाएगा?
3. काम करने के लिए कितने झाड़ू थे?
4. मुर्गियों को हाँकने के लिए क्या-क्या लिया?
5. बडा मुर्गा कहाँ खूद पडा?
6. हज्जन माँ कैसे सो रही थी?

7. भेड़ कहाँ टूठ पडी?
8. घर में कितने भैंस थे?
9. अम्मा ने कहाँ जाने के लिए सामान बाँधी?
10. पाठ के आख़िर में अदना ने क्या कहा?

सुदामा चरित

1. सुदामा की धोती कैसी थी?
2. द्वार पर कौन खड़ा था?
3. सुदामा की दीन दशा देखकर कृष्ण ने क्या किया?
4. सुदामा पोटली कहाँ छिपा रहे थे?
5. गुरुमाता ने खाने को क्या दिया?
6. भाभी ने कृष्ण को देने के लिए क्या भेजा?
7. कृष्ण का दूसरा नाम।
8. सुदामा की झोपड़ी कैसी थी?
9. सुदामा चरित किसने लिखी है?
10. द्वार पर खडे ब्राह्मण ने अपना नाम क्या बताया?

Lesson 18

टोपी

1. खोते से बाहर चिड़िया कब निकलती है?
2. खोते में वापस कब आते है?
3. खोते पर पहुँचने पर वे क्या करते है?
4. आदमी को क्या फबता है?
5. गवरा को क्या चुग गया है?

6. गवरैया को क्या चाहिए?
7. एक दिन गवरैया को क्या मिला?
8. फाहा लेकर गवरैया पहले किसके पास गई?
9. धुनिया के पास से वह कहाँ गई?
10. टोपी बनाने के लिए वह कहाँ कहाँ गई?
11. दर्जी ने टोपी पर कितने फुँदने लगाए
12. गवरइया राजा के महल जाकर कहाँ बैठी?
13. राजा क्या कर रहा था?
14. टोपी वापस मिलने पर राजा ने क्या कहा?
15. 'टोपी' पाठ का लेखक कौन है?

Science- Physics

Chapter 15

Some Natural Phenomena

I. Choose the correct answer.

1. The point from where the shock waves of an earthquake originate is called
   a) epicentre b) Seismic focus
   c) focal depth d) none of these
2. The magnitude of the earthquake is measured in
   a) Kelvin Scale b) Celsius Scale
   c) Decibel Scale d) Richter Scale
3. The outermost layer of the earth is called
   a) mantle b) outercore c) crust d) innercore
4. Where is the lightning conductor located?
   a) In the bottom of the building
   b) On the top of the building
   c) In the middle of the building
   d) Any where can be installed
5. Ligtning always follows
   a) rain b) thunder c) the easiest path d) a straight path

II. Fill in the blanks.

6. The electrical charges generated by rubbing two object is ..... electricity.
7. When charges flow, they constitute .....
8. ..... is an instrument that records Seismic waves.
9. ..... can save buildings from destruction due to lightning.
10. ..... is an earthquake under sea.

III. Name the following.

11. Two natural calamities -
12. Who discovered the static electricity or lightning in clouds and when?
13. What are the weak zone called?
14. Two types of charges -
15. Branch of Science which deals with the study of earthquakes-

IV. Write True or False and correct the false statement.

16. We can predict an earthquake.
17. The outermost layer of the earth is not fragmented.
18. Opposite electric charges repel each other.
19. Silk acquires negative charge when rubbed with a glass rod.
20. Lightning is caused by the accumulation of charges in the clouds.

V. Short Answer Questions

21. What happens when two clouds with unlike charges approach each other?
22. What happens when amber is rubbed with fur?
23. What is ligtning?
24. How are most earthquakes caused?
25. What are Seismic waves?

Chapter 13

Sound

I. MCQ

1. The voice box is called as

   a) stomach b) heart c) larynx d) mouth

2. The hearing range of human ear is

   a) 20 Hz to 20,000 Hz b) Less than 20 Hz

   c) More thean 20,000 Hz d) 20 Hz to 25,000 Hz

3. Pitch of sound is determined by its

   a) frequency b) speed c) amplitude d) loudness

4. Cochlea is a part of

   a) hearing organ b) sound producing organ

   c) muscular organ d) air pollution

5. 1 hertz is equal to

   a) 1 vibration per minute b) 10 vibrations per minute

   c) 60 vibrations per minute d) 600 vibrations per minute

II. Fill in the blanks.

6. In human beings sound is produced by .....
7. Sound of frequency lower than 20 Hz is called the .....
8. The ..... nerve is also present in the inner ear.
9. The speed of sound is maximum in .....
10. Above ..... the noise becomes physically painful.

III. Name the following

11. A musical instrument which produces sound by blowing air into it -
12. Two animals which can hear ultrasonic waves -
13. What name is given to the to and fro motion of a vibrating body about its mean position?
14. What is the range of ultra sonic waves?
15. What name is given to a circular membrane at the end if the innear ear?

IV. Wrtie True or False and correct the false statement.

16. Sound can travel through vacuum.
17. The more is the amplitude of a body, the less is its loudness.
18. Sound travels slower in water as compared to air.

19. A property which distinguishes a loud sound from a feeble sound of the same frequency is called loudness.
20. Material medium is necessary for the propagation of sound.

V. Short Answer Questions

21. Which part of the following musical instruments vibrates to produce sound?
22. Why is the ligtning seen at once, but the clap of thunder heard after some time?
23. Why we are able to hear sound of a clock clearer at night than in day?
24. When we speak and hear, does any part of our body vibrate? Name them.
25. Suppose a bell is ringing in vacuum. Will you able to hear the sound?

Chapter 14

Chemical Effects of Electric Current

I. MCQ

1. Flow of electron is called
   a) electrolyte b) electroplating
   c) electrodes d) electric current
2. An electric lamp glows due to
   a) heating efferct b) magnetic effect
   c) chemical effect d) physical effect
3. Electroplating prevents
   a) corrosion b) passing of current
   c) dissociation d) shining
4. Which of the following does not conduct electricity?
   a) Sugar Solution b) Vinegar Solution
   c) Lemon Juice Solution d) Caustic Soda Solution

5. Electroplating is basesd on
   a) heating effect of electricity
   b) chemical effect of electricity
   c) physical effect of electricity
   d) magnetic effect of electricity

II. Fill in the blanks.

6. A cation has ..... charge.
7. Light emitting diodes (LED) glow even when a ..... electric current flows through it.
8. Chromium has a ..... appearance.
9. An electrolyte is a .....
10. The deflection in ..... shows that current is passing.

III. Name the following

11. Two metal objects which have a coating of another metal.
12. Metal which is plated on handle bars of cycles and rim of wheels -
13. Three effects of electric current -
14. Part of the bulb that glow -
15. Part of an atom which is responsible for flow of current -

IV. Wrtie True or False and correct the false statement.

16. Most liquids that conducts electricity are solutions of acids, bases and salts.
17. Rubber is a good conductor of electricity.
18. Tap water conducts electricity.
19. Jewellery makers electroplate silver and gold on expensive metals.
20. In an LED bulb, the shorter lead is connected to the negative terminal of the battery.

V. Short Answer Questions

21. Why do most liquids conduct electricity?

22. What do we get on electrolysis of acidified water?
23. Why is a layer of zinc coated over iron?
24. What do we see when the compass needle is brought near a wire in which current is flowing?
25. Which metal is electroplated on iron for making cans?

Chemistry

Chapter 5

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 advise is given by PCRA for saving petrol and diesel?
5. Write notes on wide and judicious use of our exhaustible natural resource.

Chapter-6

Combustion and Flame

I. MCQ

1) In the sun, light and heat are produced by

(a) chemical reactions (b) nuclear reactions

(c) burning reactions (d) Bunsen burner

2) Lowest temperature at which a substance catches fire is known as

(a) lowest temperature (b) burning temperature

(c) ignition temperature (d) flaming temperature

3) Which of the following are required essentially for producing fire?

(a) Glass, coal, water (b) Fuel, coal, straw

(c) Fire, wood, burner (d) Fuel, air, heat

4) The most common element used as fire extinguisher is

(a) CO_2 (b) oxygen (c) phosphorus (d) NO_2

5) Baking soda constitutes

(a) hydrogen chloride (b) sodium oxide

(c) sodium bicarbonate (d) oxygen

II. Fill in the blanks

1) The substance which vaporises during burning gives ……

2) A good fuel should have …… calorific value.

3) …… are substances that release energy on combustion.

4) The most common supporter of combustion is ……

5) Incomplete combustion of fuels containing carbon releases …….. gas.

III. True or False. If false correct the statement

1) A matchstick only contains white phosphorus.

2) The middle zone of a flame has yellow colour

3) Increase in nitrogen gas in atmosphere has led to 'global warming'.

4) Burning of charcoal produces flame with four distinct zones.

5 Soda-acid fire extinguisher contains sodium bicarbonate and dilutes sulphuric acid.

IV. Very Short type Answer:

1) What is the composition of the head of a matchstick?

2) Which part of a flame does a goldsmith blow for melting gold and silver?

3) What is the unit for expressing the calorific value of a fuel?

4) Name some of the substances which burn without producing a flame.

5) Name the term which is used to express the efficiency of a fuel.

V. Short Answer type Questions

1) Why food is called fuel for our body?

2) Why is the innermost zone of a flame black in colour?

3) Explain how CO_2 is able to control fires.

4) Which is the best fire extinguisher for fires involving electrical equipment and inflammable materials like petrol?

5) Why is water not used to control fires involving electrical equipment?

6) Why does cooking oil catch fire if a frying pan is kept on the burning stove for a long time?

VI. Assertion and Reason type Questions

a) Assertion and reason both are correct statement and reason is correct explanation for assertion.

b) Assertion and reason both are correct statement and reason is not correct explanation for assertion.

c) Assertion is correct statement but reason is wrong statement.

d) Assertion is wrong statement but reason is correct statement.

1. Assertion- match stick does not catch fire on its own at room temperature.
   Reason- the head of the safety match contains only antimony trisulphide and potassium chlorate.
2. Assertion- the LPG can catch fire easily.
   Reason- LPG has low ignition temperature OR LPG are inflammable substances.
3. Assertion – water can be used to control fire equipment or oil
   Reason- water is commonly used to control fire.
4. Assertion – Magnesium and charcoal are combustible substances.
   Reason – a chemical process in which a substance reacts with oxygen to give off heat is called combustion.
5. Assertion-In case of burning, air and moisture are necessary.
   Reason-Oxygen is a supporter of combustion. In case of burning, air and moisture is necessary.

BIOLOGY

Chapter 8

Cell Structure

1. Where are genes located?
2. What is the basic living unit of an organism?
3. Name the instrument used to study cells.
4. Name the scientist who coined the term cell.
5. Which part of a cell controls all the activities of the cell?
6. Name the outermost layer of an animal cell.
7. What is tissue?
8. What are prokaryotic cells?
9. In a plant cell, the cell wall is made up of .....

10. ..... act as a control center of the cell
11. Several organ systems together form a ..... organism
12. _____destroy old and worn out cells.
13. What is the layer outside the cell membrane of a plant cell called?
14. Name the animal cell which is long and has thread like branches
15. A hen's egg can be seen easily. Is it a cell or a group of cells?
16. Name a single cell present in the human body which can change its shape.
17. What regulates the movement of substances into and out of the cell?
18. Name the smallest and largest cell in the world.
19. What advantage does Amoeba derive by changing shape?
20. What are pseudopodia in amoeba? What are the functions of pseudopodia?
21. What is protoplasm?
22. Why are plant and animal specimens usually stained with dyes before observing them through a microscope? Name one stain used for this purpose.
23. Which part of the cell contains organelles?
24. Explain why chloroplasts are found only in plant cells?
25. Why plant cells need cell walls?

Or

What is the function of cell wall in a plant cell?

Chapter 9

Reproduction in Animals

1. Name the male and female gametes produced by the testes and ovaries
2. What is the other name of the fertilized egg?
3. Name the male reproductive organs of human beings.
4. Name the female reproductive organs of human beings.

5. How is a Zygote changed into an embryo?
6. What is foetus?
7. What are viviparous animals?
8. Give two examples of viviparous animals.
9. What are oviparious animals? Give 2 exmaples.
10. What is metamorphosis?
11. What are test tube babies?
12. Why aquatic organisms produce a large number of sperms and eggs?
13. Define external fertilization? Give two examples.
14. What is a sexual reproduction?
15. Draw the various stages in the life-cycle of frog.
16. What is cloning?
17. Draw a labelled diagram of female reproductive system of human being.
18. Draw a labelled diagram of a sperm.

Chapter 10

Reaching the Age of Adolescence

Multiple Choice Questions:-

1. The belief that the mother is completely responsible for the sexof the child is wrong because the child
   (a) gets sex chromosome only from the mother.
   (b) develops in the body of the mother.
   (c) gets one sex chromosome from the mother and the other from the father.
   (d) gets sex chromosome only from the father.
2. AIDS can spread from an infected person to another person through
   (a) sharing food (b) blood transfusion
   (c) sharing comb (d) a mosquito bite

3. Given below are events that lead to pregnancy and development of embryo.

   (i) Fertilization of egg

   (ii) Maturation of egg

   (iii) Release of egg

   (iv) Embedding of embryo in thickened uterine wall.

   Which of the following options gives the correct order of sequence in which they occur?

   (a) i, ii, iii, iv, (b) ii, i, iii, iv

   (c) i, iv, ii, iii (d) ii, iii, i, iv.

4. For the metamorphosis of tadpoles which of the following elements must be available in water?

   (a) chlorine (b) carbon (c) sulphur (d) iodine

5. The reproductive phase of a woman lies between her _____ and menopause.

   a) menstrual cycle b) menstruation

   c) menarche d) ovulation

6. A female gamete carries _____ chromosome(s).

   a) one Y b) one X and one Y c) two X d) one X

7. Deficiency of iodine in our diet leads to a condition called:

   a) Diabetes insipidus b) Goitre

   c) Gigantism d) Infertility

8. Read the following sentences carefully, and choose the incorrect one:

   a) Testosterone hormone produces male secondary sexual characteristics in boys at puberty (such as deeper voice, growth of facial hair etc.)

   b) Testosterone hormone causes “growth spurt” in boys at puberty.

c) Testosterone hormone causes the growth and development of male sex organs at puberty.

d) None of the above.

9. Priya is writing some statements, choose the correct statement and help her:

a) In a frog, metamorphosis is brought about by thyroxine hormone.

b) The production of thyroxine hormone requires the presence of iodine in water.

c) All the amphibians need thyroxine hormone to undergo metamorphosis and change from larva into adults.

d) All the above.

10. Which of the following is a mis-matched pair?

a) Adrenaline : Pituitary gland b) Estrogen : Ovary

c) Pancreas : Insulin d) Testosterone : Testis

Assertion and Reason Questions

a) Assertion and reason both are correct statement and reason is correct explanation for assertion.

b) Assertion and reason both are correct statement and reason is not correct explanation for assertion.

c) Assertion is correct statement but reason is wrong statement.

d) Assertion is wrong statement but reason is correct statement.

1.) **Assertion-** change in height , voice , in body shape are the sign of puberty.

Reason- the several changes are observe during adolescence are called puberty.

2) **Assertion-** Girls have high pitched voice , whereas boys have a deep voice.

Reason- Because the voice is depend upon the growth of larynx.

3) **Assertion-** endocrine glands called ductless glands.
   Reason- they don't release hormones directly into the blood streams.
4) **Assertion-** the growth of hairs on face that is moustaches and beard.
   Reason- this is primary sexual characters in male.
5) **Assertion**- the changes which occurs at adolescence are controlled by hormones.
   Reason- hormones are chemical substances secretion from endocrine glands.
6) **Assertion-** there are 23 pairs of chromosomes in human cell.
   Reason- chromosomes is a thread like structure present in nuclei of the cell**.**
7) **Assertion**- balanced diet is very important at the age of adolescence.
   Reason- the meal include proteins , carbohydrates, fats and vitamins are known as balanced diet.

Answer the Questions:-

1. Name the hormone
   a. That is released by testes at the onset of puberty.
   b. Produced by ovaries that helps in development of mammary glands.
2. Mention any two features each that are seen in boys and girls each to distinguish them from each other at puberty.
3. We should avoid taking medicines/drugs unless prescribed by a doctor. Give reasons.
4. In human females, each time during maturation and release of egg the inner wall of uterus thickens. Is this thickening permanent? Give reasons.
5. What is the role of pituitary gland .Name the hormone secreted by it.
6. Write short note on reproductive phase in human.

7. Define the terms:
    a. Menstruation
    b. Menarche
    c. Menopause
8. Why are drugs harmful to body?
9. Write short note on AIDS.
10. How is sex of a chid determined?
11. List some secondary sexual characters in females?
12. What happens when the egg is fertilised?
13. Which hormone is released by pancreas? What is its function?
14. John and Radha were classmates since childhood. When Radha became eleven years old, she developed a little swelling on her neck. She visited the doctor who started medication for her. After a few years, John also developed a slight protrusion on his throat. He got worried and went to the doctor. But, the doctor assured him that it was a normal feature in boys while they are growing up. Can you think of any reasons for the difference in diagnoses?
15. Why we should not take medicines or drugs unless prescribed by a doctor?

History

Chapter 6

The Great Uprising

1. The last Mughal Emperor of India.
2. Which battel was considered as the first major British Victory in India?
3. Name two groups of people who suffered due to the withdrawal of royal patronage.
4. When did the British introduced railways in India?
5. Name the place where Enfield Pritchett rifle was manufactured.
6. Name the first soldier to protest against the use of cartidges.
7. Who led the revolt in Lucknow and who assisted her?
8. Which all places Kunwar Singh organized and led the revolt?
9. How did British historians refer the revolt of 1857?
10. According to the Act of 1858 what rule was established in India?
11. Governor General is also know as .....
12. Who was the queen of England when the Act of 1858 was passed?
13. Who were listed as Martial races?
14. What are the changes in the army after the revoltof 1857?

Chapter 11

The National Movement : First Phase

1. ..... feeling was a major factor that contributed to the rise of nationalism.
2. The policies of the Viceroy ..... intensified discontent against British rule.
3. In which year a lavish Imperial Durbar was held in Delhi?
4. Name the act which forbade Indians from possessing arms.
5. Association formed by Surendranadh Banerjee in 1851?
6. When and who formed the INC?

7. The group of people who dominated the early years of INC.
8. Two methods of fighting adopted by radicals against British.
9. When and who was responsible for the partition of Bengal?
10. Which day was observed as a day of mourning?
11. Two methods of struggle adopted after the partition of Bengal.
12. In which session the two groups in Congress re-united?
13. Two active revolutionary Societies in India.
14. The Revolutionary association which was active in Europe and America.
15. Indian Councils Act was popularly known as .....
16. Write a short note on the formation of INC.

Chapter 12

The National Movement - Second Phase

1. The first movement in which Gandhiji got involved.
2. What is Government of India Act of 1919 popularly known as
3. Which day is observed as National Humiliation Day?
4. Name the General who was responsible for Jallianwala Bagh Massacre.
5. Religious head of the muslim community.
6. Name the title that Gandhiji gave up as a part of Non Co-operation Movement.
7. Which incident forced Gandhiji to withdraw non co-operation movement?
8. Which movement is related to Dandi March?
9. Slogan gave by Gandhiji which inspired the entire nation during Quit India Movement.
10. Indian National Army is also known as .....
11. Who gave the slogan 'Delhi Chalo' and 'Jai Hind'?

12. Women's regiment in Indian National Army.
13. Who was the viceroy of India during the time of independence?
14. When was Gandhiji shot shed?
15. Mention the events related to the following years
    a) August 1942 b) 1931 c) 1930 d) 1919
    e) 1920 f) February 1922
16. Explain the role of INA under the leadership of Subash Chandra Bose.

Social and Political Life

Chapter 4

The Judiciary

1. The first Chief Justice of India?
2. The apex of judicial hierarchy?
3. Who appoints in chief Justice of India?
4. When was supreme court of India inaugurated?
5. The process of removal of Supreme Court judges.
6. How many High Courts are there in India?
7. Till what age a High Court Judge can serve?
8. The court that hear criminal cases at district level.
9. The court that deals with land records.
10. Court set up for speedy justice.
11. Who are the members of Lok Adalat?
12. What do you know about Lok Adalat?

Chapter 5

The Police and the Courts

1. Who files the charge sheet?
2. Which article of our constitution guarantees rights regarding portection against arrest?
3. The ..... is the primary law enforcement agency.

4. Full form of FIR.
5. When was the right to information act was enforced?
6. Which is the largest prison complex in South Asia?
7. What is the interjail cultural events organised for the inmates of Tihar jail called
8. Who is the head of the police hierarchial set up at the District level?
9. The lawyer who presents the complainant's case.
10. The quantum of punishment depends upon the ..... and ..... of the crime committed.
11. The lawyer who is been hired by the accused to defend his case.
12. The police files a charge sheet in the .....
13. Why do you think the court cannot act on its own?

Geography

Chapter 4

Mineral and Power Resources

1. What are ores?
2. Arrange the following into sequential order
   i) Iron Age ii) Copper Age iii) Bronze Age
   iv) Steel Age v) Stone Age
3. Give one example of ferrous minerals.
4. What do you mean by open cast mining and drilling?
5. Find the odd one
   coal, petroleum, hydel power, biogas
6. ..... is widely used to generate thermal electricity.
7. Name any one product which can made up of petroleum.
8. Name any two coal mining areas in India.
9. ..... is produced by using the force of falling water.

10. The word photovoltaic cells is related to
    a) wind energy b) tidal energy c) solar energy d) nuclear energy
11. Suggest some measures for the conservation of mineral and power resources.
12. Differentiate between metallic and non-metallic minerals.
13. What are the different types coal?
14. Differentiate between conventional and non conventional sources of energy.
15. Write the features of petroleum.
16. Give the main characteristics of minerals

Chapter 5
Agriculture

1. What do you mean by Arable land?
2. Shifting cultivation is also known .....
3. Claying soil has high ..... capacity.
4. Hot and ..... climate favour agriculture.
5. Which among the following is the cultivation of flower.
    a) floriculture b) horticulture c) pisciculture d) sericulture
6. Which among the soil is more fertile?
7. What are estates?
8. The word transhumance is related to which type of farming?
9. Which among the following is tertiary activity?
    a) Industry b) Fishing c) Forestry d) Education
10. Define Agricultre.
11. Choose the correct pair
    a) Subsistence farming - Crop rotation
    b) Shifting cultivation - slash and burn method

c) Sedentary farming - nomadic herders

d) Extensive farming - Thickly populated areas

12. Industrial revolution started in ..... century.
13. What is mixed farming?
14. Mention the economic factors that can affect agriculture.
15. Compare and contrast extensive and intensive farming.
16. Who are nomades? Give the features of nomadic herding.
17. How can you divide the economic activities in India. Give examples.
18. How soil and climate will affect the agriculture?
19. "Agriculture is the backbone of the economy" - Explain.

Chapter 7

Manufacturing Industries

1. ..... in Maharashtra is the largest centre and is rightly called the ....
2. What do you meant by virtual learning?
3. Which among the following is classified on the basis of minerals?

   a) Paper b) Iron and steel c) Textile d) Rayon
4. Give one example for private sector industries.
5. Find the odd one.

   Tata steel, Relience, Hindustan Motors, Amul
6. Which industry is also known as basic industry?
7. What is pigiron?
8. Name any one Iron and steel mill in India.
9. PNB is a ..... sector industry.
10. Complete the following

    ginning, spinning, ..., ..., printing
11. The first modern cotton textile mill in India was established in ..... in 1854.
12. What is manufacturing?

13. How can you classify the industries on the basis of raw material?
14. Differentiate between large scale and small scale industries.
15. “Manufacturing helps to remove poverty and unemployment.” Give your views.
16. Explain the factors affecting the location of industries.
17. “It has brought phenomenal changes in all aspect of life” - Explain.
18. Describe the growth and development of cotton textile industries.
19. Explain the industrial system of Iron and steel industry.

Chapter 9

Human Resources

1. Which among the following is the greatest resource on earth?
   a) land b) soil c) human beings d) technology
2. Define density of population.
3. Define annual growth rate of population.
4. What is population pyramid?
5. The age of the elderly depends should be ..... years and above.
6. Eastern and southern Asia are ..... populated.
7. Explain the factors affecting distribution of population.
8. Explain the population composition.
9. How population growth will affect the economic development of the country?
10. How migration of people will affect population distribution.

Mathematics

Chapter - 8

Comparing Quantities

I. Fill int he blanks:-

1. The ratio 4:25 converted to percentage is .....
2. The fraction $\frac{1}{8}$ converted to percentage is .....
3. 40% of 50 students of a class are good at science. Number of students not good at science are .....
4. Reenu purchased a cycle for Rs. 1000 and sold it for Rs. 1200. Her gain % is .....
5. If M.P = 1300, Discount = 10%, then SP is .....

II. Find the following.

1. There are 24% boys in a school. If number of girls is 456 find total number of students in the school.
2. The cost of 15 articles is equal to the selling price of 12 articles. Find the profit pecentage.
3. Find the compound interest on ₹2400 at 5% per annum for 2 years compounded annually.
4. A machinery worth ₹10,500 depreciated by 5%. Find its value after one year.
5. Riya took a loan of Rs. 80,000 from a bank. If the rate of interst is 10% p.a., find the difference in amounts he would be paying after $1\frac{1}{2}$ years if the inerest is

   i) Compounded annually

ii) Compounded half-yearly

6. Compute the amount and the compound interest in each of the following by using the formula:

   i) Principal = 12800, Rate = $7\frac{1}{2}$% p.a.

      Time = 3 years compounded annually.

   ii) Principal = 10,000, Rate = 20% p.a.

      Time = 2 years compounded half yearly.

   iii) Principal = Rs. 31250, Rate = 8% p.a

      Time = $1\frac{1}{2}$ years compounded half yearly

7. Latika bought a teapot for ₹120 and a set of cups for ₹400. She sold teapot at a profit of 5% and cups at a loss of 5%. Find the amount received by her.

8. By selling a water heater for Rs. 3200, the shopkeeper incurs a loss of 20%. If he wants to ean a proft of 20%, at what price should he sell the water heater?

9. Ramesh bought two boxes for Rs. 1300. He sold one box at a profit of 20% and the other bos at a loss of 12%. If he selling price of both boxes is the same, find cost price of each box.

10. A colour TV is available for Rs. 13,440 inclusive of VAT. If the original cost of TV is Rs. 12000, find the rate of VAT.

Chapter - 11
Mensuration

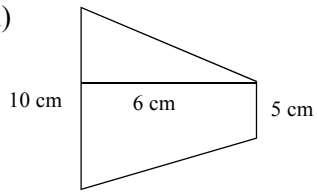
I. Fill in the blanks.

1. 1 cm^3 = ...mm^3
2. If the area of a rhombus is 60cm^2 and one diagonal is 10 cm, then the other diagonal is .....
3. Eight persons can stay in a cubical room. Each person requires 27m^3 of air. The side of cubical room is .....
4. If the height of a cuboid becomes zero, it will take the shape of a .....
5. The floor of a room is a square of side 6m, its height is 4m, then volume of the room is .....
6. The base radius and height of a right circular cylinder is 14 cm and 5 cm respectively. Then its curved surface area is .....
7. A cuboid has ..... pair of identical faces.
8. A cylinder has ..... curved surface and ..... circular faces, which are identical.

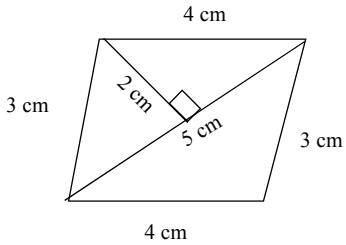
II. Find the following.

1. A cuboidal box has height, length and width 20cm, 15 cm and 10 cm respectively. Then find its TSA.
2. Find height of a cylinder whose radius is 7cm and total surface area is 968 cm^2
3. Find area of the following figures.

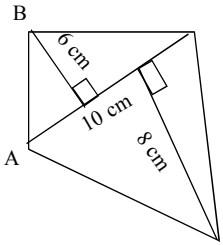
i)



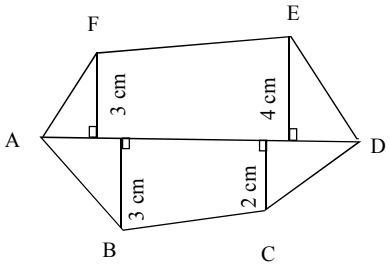
ii)



iii)



4. A copper wire of length 44 cm is to be bent into a square and a circle. Which will have larger area?
5. Two cubes are joined end to end. Find the volume of the resulting cuboid, each of the cube is of side 6cm.
6. How many bricks each 25 cm by 15 cm by 8 cm, are required for a wall 32 m long, 3m high and 40 cm thick?
7. Find area of hexagon ABCDEF. Given that AD = 8cm, AJ = 6cm, AI = 5 cm, AH = 3cm, AG = 2.5 cm and FG, BH, EI and CJ are perpendicular on diagoanl AD from the vertices F, B, E and C respectively.



8. The diagonals of a rhombus are 12 cm and 5 cm. Find the perimeter of the rhombus.
9. The volume of a cuboid is 440 cm^3. If its base area is 154 cm^2, find its height and lateral surface area.
10. The volume of a circular cylinder is 3234 cm^3. If its radius and height are in the ratio 1 : 3 find its total surface area.

11. In a building there are 24 cylindrical pillars. The radius of each pillar is 28 cm and height is 4m. Find the total cost of painting the curved surface area of all pillars at the rate of ₹8 per m^2.
12. If 'a' is the side of a regular hexagon, then find its area.
13. A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of the roller is 91 cm and length is 1.25m.
14. The lateral surface area of a hollow cylinder is 4224 cm^2. It is cut along its height and formed a rectangular sheet of width 32 cm. Find perimeter of the rectangular sheet.
15. A company packages its milk powder in cylindrical containers whose base has a diameter of 16.8 cm and height 20.5 cm. Company places a label around the curved surface of the container. If the label is placed 1.5 cm from the top and bottom, what is the total surface are aof the label?
16. The sum of the base radius and height of a solid cylinder is 37m. If total surface area is 1628m^2, find the circumference of the base. Also find volume.
17. Find the ratio between total surface area of a cylinder to its curved surface area given that its height and radius are 7.5 cm and 3.5 cm.
18. The radius and height of a cylinder are in the ratio 5 : 7 and its volume is 550cm^3. Find its radius.
19. A rectangular sheet of paper 44 cm × 18 cm is rolled along its length and a cylinder is formed. Find the volume of the cylinder.
20. A solid cylinder has total surface area of 462 square cm. Its curved surface is one-third of its total surface area. Find volume of the cylinder.

Chapter - 12

Exponents & Powers

1. Fill in the blanks

a. Reciprocal (multiplicative inverse) of $\left(\frac{1}{3}\right)^{-2}$ is .....

b. $(3^0 + 4^{-1}) \times 2^2$ is .....

c. $(3^{-1} + 4^{-1} + 5^{-1})^0$ is .....

d. If $5^m \times 5^{-3} = 5^5$ then m is .....

e. If $2^p \div 2^{-4} = 4^5$, then p = ...

f. 0.00000000837 in standard form is .....

g. 3.61492×10^6 in usual form is .....

2. Evaluate

a. $\left(\frac{5}{8}\right)^{-7} \times \left(\frac{8}{5}\right)^{-4}$

b. $\frac{8^{-1} \times 5^3}{2^{-4}}$

c. $\left\{\left(\frac{-2}{3}\right)^{-2}\right\}^2$

d. $\left\{\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3}\right\} \div \left(\frac{1}{5}\right)^{-2}$

e. $\left(7^{-1} - 8^{-1}\right)^{-1} - \left(3^{-1} - 4^{-1}\right)^{-1}$

3. Simplify and express the result in power notation with positive exponent.

a. $\left(\frac{1}{2^3}\right)^2$

b. $\left(3^{-5} \div 3^{-10}\right) \times 3^{-5}$

c. $2^{-3} \times (-7)^{-3}$

d. $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

4. Find the area of rectangle with width $6x^2$ and length $12x^3$. Also find the area if x = 2 meters.

5. Find x if $\left(\frac{11}{9}\right)^3 \times \left(\frac{9}{11}\right)^6 = \left(\frac{11}{9}\right)^{2x-1}$

6. State true or false

a. Very small numbers can be expressed in standared form using negative exponents.

b. $a^p \times b^q = (ab)^{pq}$

c. $\frac{1}{(8)^{-3}} = 2^9$

d. $(-1)^3 = 1$

e. The multiplicative inverse of $(-2)^{-2}$ is $(2)^2$

f. $\frac{x^m}{y^m} = \left(\frac{y}{x}\right)^{-m}$

7. Simplify $\left(\frac{4}{13}\right)^4 \times \left(\frac{13}{7}\right)^2 \times \left(\frac{7}{4}\right)^3$

8. Simplify

$$\frac{\left(3^{-2}\right)^2 \times \left(5^2\right)^{-3} \times \left(t^{-3}\right)^2}{\left(3^{-2}\right)^5 \times \left(5^3\right)^{-2} \times \left(t^{-4}\right)^3}$$

9. Simplify

$$\frac{2^{-5} \times 3^{-5} \times 125}{5^{-4} \times 6^{-5}}$$

10. By what number should $(-8)^{-3}$ be multiplied so that the product is equal to $(-6)^{-3}$?

Chapter - 13

Direct and Inverse Proportions

I. Choose the correct answer.

1. A train is running at a speed of 75 km/hr. What distance will it cover in 20 minutes?

   a) 15 km b) 20 km c) 23 km d) 25 km

2. If 15 workers can build a wall in 48 hours, how many workers will be required to do the same work in 30 hours?

   a) 15 b) 14 c) 24 d) 30

3. If $\frac{x_1}{y_1} = \frac{x_2}{y_2}$ and $x_2 = 7.2$, $y_1 = 8.8$, $y_2 = 3.6$ then x_1 is equal to

   a) 17.6 b) 14.4 c) 9.9 d) 4.4

4. Which od the following vary inversely with each other?

   a) Speeed and distance coverd

   b) Distance coverd and taxi fare

   c) Distance travelled and time taken

   d) Speed and time taken

5. A machine produces 1800 tools in 6 hours. The number of tools produced by it in 9 hours is

   a) 2700 b) 5400 c) 3600 d)900

II. Fill in the blanks

1. If x = 5y, then x and y vary ..... with each other. (inversely/directly)
2. The perimeter of a circle and its diameter vary ..... with each other. (directly/inversely)
3. If x varies inversely as y, and $x_1 = 1.5$, $y_1 = 60$, $y_2 = 4.5$ then x_2 = ...
4. The rate of working power of two men are in the ratio 3 : 5. The number of days taken by them to finish a work will be in the ratio ....
   (5: 3 or 3 : 5)

5. The distance travelled by a rickshaw in one hour is 10 km, then the distance travelled by the same rickshaw with the same speed in one minute is ..... m.

III. Answer the following.

1. The cost of 27 kg of iron is ₹1080, what will be the cost of 120 kg of iron of the same quality?
2. Find P and Q in the following table if x and y vary inversely.

x	p	200	300
y	60	30	q

3. If 25 meters of cloth costs ₹337.50 then
   i) what will be the cost of 40 metres of the same type of cloth?
   ii) what will be the length of the cloth bought for ₹810?
4. 44 cows can graze a field in 9 days. How many less/more cows will graze the same field in 12 days?
5. In a scout camp, there is food provision for 300 cadets for 42 days. If 50 more persons join the camp, for how many days will the provision last?
6. Complete the table (find a, b and c) if x and y vary directly.

x	3.5	4	7.5	c
y	a	8	b	21

7. A train travels 112 km in 1 hour 30 minutes with a certain speed. How many kilometers will it travel in 4 hours 45 miuntes with the same speed?
8. Six pumps working together empty a tank in 28 minutes. How long will it take to empty the tank if 4 such pumps are working together?
9. There are 100 students in a hostel food provision for them is for 20 days. How long will these provisions last, if 25 more students join the group?
10. 36 men can complete a work in 20 days. Find the number of days in which the work will be done by 12 men.

Chapter - 14

Factorisation

I. Fill in the blanks.

1. $4x^3yz^2 \div 2xyz$ = ...
2. $x^2 + 16x + 64 = (x + 8) \times$ .....
3. $\frac{x^2 - a^2}{x + a}$ = ...
4. $\frac{6.25x^2 - 1.21y^2}{2.5x - 1.1y}$ = ...
5. The value of $(3x^2 + 6) \div 3$ is .....

II. Write True or False.

1. (x - 2) is one of the factors of $x^2 + 4$
2. $x^2 - 9$ is completely divisible by x + 3
3. The factors of $x^2 - 1$ are (x - 1) and (x+1)
4. The factors of $x^2 + x + 1$ are (x + 1) and (x + 1)
5. The factors of $6x^2 - 216$ are 6, (x - 6) and (x + 6)

III. Factorise the following expressions.

1. $25x^2y^2 - 16$
2. $k^2 + 6k + 8$
3. $x^4 - y^4$
4. $10xy + 4x + 5y + 2$
5. $a^4 - (b + c)^4$
6. $25x^2 - 4y^2 + 28xy - 49z^2$
7. $2b^2 + 8ab + 4ac + bc$
8. $15x^2y^3z + 25x^3y^3z + 35x^2y^2z^2$
9. $(x^2 - 2xy + y^2) - z^2$
10. $(a^2 - 5a)^2 - 36$
11. $a^2 - 14a - 51$
12. $40 + 3x - x^2$

IV. Workout the following divisions

1. $10y(6y + 21) \div 5(2y + 7)$
2. $39x^3(50x^2 - 98) \div 26x^2(5x + 7)$
3. $4x^2 + 16x + 16 \div 2x + 4$

4. $(4x^2 - 100) \div 6(x+5)$
5. $(3b - 6a) \div (30a - 15b)$
6. $(ax^2 - ay^2) \div ax + ay$
7. $-72a^4b^5c^8 \div -9a^2b^2c^3$

V. Find $\dfrac{121b^2 - 88bc - 16c^2}{11b - 4c}$

VI. Simplify: $2a^2(b^2 - c^2) + b^2(2c^2 - 2a^2) + 2c^2(a^2 - b^2)$

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