Appendix – 1
ASSESSMENT TOOL FOR WRITING SKILL

I  1. Complete the words which express the result of nuclear weapons
   a) Exp---os-- -- ns, b) r—in  c) Dev—s---t--- d) su-- -- er—gs e) d-s- - oy

2. Identify content word and structural word from the following

   Which   He
   City    Acting
   After   on
   Through Flower

3. Fill in the blanks : Quiet, Quit, Quite
   a) Gandhiji organised .................. India Movement on 1942
   b) Teacher asked the students to be ..................
   c) The answer for this question is .................. clear to all

4. Build any three words using phonetic symbols

5. Complete the sentence using correct word from the parenthesis
   a. The sudden rains .......... the rescue work
      (affected, effected)
   b. There has been a ............ of diseases after the earthquake
      (breakout, outbreak)
   c. You should not .............. in things that don’t concern you
      (interfere, intervene)
   d. All the quests .............. from their seats. (raised, rose)
   e. He was ............... coming late last month
      (continuously, continually)

II. Punctuate the following
1. Tell me grand father I said to him one day I have never seen people like the villagers here

2. Identify sentence structure:
   a. The authorities gave the assistants an increased salary
   b. He walked a long distance
   c. During holidays, we regularly play games
   d. They elected him captain
   e. He appears to be criminal

3. Write synonyms and antonyms of the following words
   a. Necessary   c. Brave       e. cluster
   b. Endeavour   d. Dependent

4. Attempt a written presentation of the following diagram
5. Rewrite the following sentences as given below
   a. It is a very ball building (into exclamatory)
   b. This is my pet dog (into interrogative)
   c. How clever he is! (into assertive)
   d. He will report at nine (frame a wh-question)
   e. You have to answer the questions (into imperative)

III.1. Expand the proverb – “Honesty is the best policy”

2. Write short note on “writing”

3. Paragraph writing: Pick out any two head lines from the day’s newspaper Expand each into a paragraph

4. Expansion of hints into a paragraph (Drafting and Editing)

   William words worth – born in 1770 – pioneer of romantic revival –
   His love of nature boundless – greatest poet of the country – wanted to
   establish communion of man and nature – for him nature was the greatest
   teacher – died in 1850 – poems are popular for simplicity and charm

5. Precise writing

   Butterflies are rightly called “Jewels of Creation”. There are more than
   50,000 species of butterflies distributed worldwide. The wings of the
   butterflies are gorgeously coloured, with a seemingly infinite range in
   diversity, brilliance, patterns and shapes. The light, day-flying butterflies are
   to be distinguished from their cousins, the moths, which are nocturnal.
   Butterflies are neither feared nor disliked, because they do not sting or carry
   disease or cause any serious damage to human beings.

   Because of their glorious colours, butterflies are universally popular. In
   their colouration, they are unmatched by any others in creation, with the
   possible exception of birds. Their protective colouration in imitation to
   certain harmful insects and in merging their own with that of their background
   is remarkable.

   Butterflies are instant favourites with children as they are with
   collectors, both amateur and professional, scientists and laymen. In many
   cases, butterflies are collected, not for mere scientific study alone. A butterfly
   is a thing of beauty and is a joy forever.
6. Vocabulary learning:

Solve the puzzle using clues

**Down**                               **Across**
1. Sound made by a wild animal 1. Line
2. Has 5 fingers 4. Moving to the rhythm of music
3. Opposite to host 6. Circular
4. Late evening 7. Talent
5. One

7. Give a single word substitution table for the grammar ‘Present Continuous Tense’

8. Use the correct form ‘run’ with any four and write it in your own sentence
9. Use acronym strategy and explain main idea in a paragraph
(or)
Write sentences to bring out the difference in meaning between the words in pairs.
   a. Principal - Principle
   b. Atlast - Atleast
   c. Affect - Effect
   d. Know - No

10. List three to five phrases describing what you see, hear, taste, touch and smell while imaging yourself inside the visual provided by your teacher.
Appendix – 2
B.Ed., Trainee Attitude Scale

Towards Writing

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>ND</th>
<th>DA</th>
<th>SDA</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>SDA</td>
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</tr>
</tbody>
</table>

1. Writing letters in English is enjoyable
2. Sharing English writing with others need not be given much importance.
3. Improvement of writing skill is involved with correct punctuation.
4. Spending more time to write in English is not preferred.
5. Memory is made possible by dividing the content into smaller bits.
6. No interest is shown to find out the alternate words for a single word while writing.
7. Acquisition of writing ability is assisted by mental manipulation.
8. Lecture in English shall not be noted in English only.
9. Writing the known matter in English is fascinating.
10. Spare time is not made useful by writing in English.
11. Writing skill in English is enhanced by imagery.
12. Writing in English is not easy.
13. Writing paragraphs in English is easier with memory images.
14. Resorting to write in English does not need compulsion.
15. Mechanical errors are witnessed in English writing.
16. Compulsiveness does not lead to write in English.  

17. Similies, Metaphors and personification are perceived with interest.  

18. Social proficiency is indispensable for optimum utilization of writing skill.  

19. Adequate revision results better English writing.  

20. Writing in English is not a suitable instrument to express one’s feelings.  

21. Improvement in writing is made possible by using mnemonics.  

22. Writing in English has not become a part of the job.  

23. Confidence paves way to write in English.  

24. Writing in English does not need monitoring.  

25. Spatial competency is used to develop meaning acquisition and writing skill.  

26. Writing stories in English is not interesting.  

27. Imagery is very close to grapheme.  

28. Early writing in English is not outdated by later English.  

29. Motivation is required to improve writing.  

30. Learning correct pronunciation does not elevate writing skill.  

31. Flow of writing in English is influenced by imagination.  

32. Evaluation is not so encourageous to writing.  

33. While writing in English ideas dominate more than the novelty of sentences.  

34. Spelling skill does not depend only on the dictionary usage.  

35. English Thesaurus enriches the power of vocabulary.
36. Dramatisation does not induce writing skill.

37. Analytical thinking and organization are the two sides of writing ability in English.

38. Writing ability is not substantiated by conversation.

39. Selective attention invariably leads to develop writing skill.

40. Arranged ideas do not speed up writing.
BACKGROUND INFORMATION

1. Name : 
2. Age : 
3. Sex : Male / Female 
4. Educational Qualification : UG / PG 
5. Martial Status : Married / Unmarried 
6. Location : Rural / Urban 
7. Medium of Instruction : Tamil / English 
8. Kind of School Studied : (a) State Board / Metric / Others. 
   (b) Govt School / Aided School / Private School. 
9. Mode of admission : Counseling / Management 
10. Educational Qualification of Parents : Father Mother 
    1. Less than School : 
    2. Bachelor’s degree : 
    3. Master’s degree : 
    4. Professional degree : 
    5. Others : 
11. Occupation of the parents : Father Mother 
    1. Government : 
    2. Private : 
    3. Business : 
    4. Name : 
2. THE FUN THEY HAD

– Isaac Asimov

Margie even wrote about it that night in her diary. On the page headed May 17, 2155, she wrote: ‘Today Tommy found a real book!’ It was a very old book. Margie’s grand father once said that when he was a little boy his grandfather told him that there was a time when all stories were printed on paper. They turned the pages, which were yellow and crinkly, and it was awfully funny to read works that stood still instead of moving the way they were supposed to – on a screen, you know. And then, when they turned back to the page before, it had the same words on it that it had when they read it the first time. ‘Gee,’ said Tommy, ‘what a waste. When you’re through with the book, you just throw it away, I guess. Our television screen must have had a million books on it and it’s good for plenty more. I wouldn’t throw it away. Same with mine, said Margie. She was eleven and hadn’t seen as many tele books as Tommy had. He was thirteen. She said, Where did you find it? In my house. He pointed without looking, because he was busy reading. In the attic. What’s it about? School. Margie was scornful. ‘School? What’s there to write about school? I hate school. Margie always hated school, but now she hated it more than ever. The mechanical teacher had been giving her test after test in geography and she had been doing worse and worse until her mother had shaken her head sorrowfully and sent for the County Inspector. He was a round little man with a red face and a whole box of tools with dials and wires. He smiled at her and gave her an apple, then took the teacher apart. Margie had hoped he wouldn’t know how to put it together again, but he knew how all right and, after an hour or so, there it was again, large and black and ugly with a big screen on which all the lessons were shown and the questions were asked.
That wasn’t so bad. The part she hated most was the slot where she had to put homework and test papers. She always had to write them out in a punch code they made her learn when she was six years old, and the mechanical teacher calculated the mark in no time. This inspector had smiled after he was finished and patted her head. He said to her mother, It’s not the little girl’s fault, Mrs.Jones. I think the geography sector was geared a little too quick. Those things happen sometimes. I’ve slowed it up to an average ten-year level. Actually, the over-all pattern of her progress is quite satisfactory. And he patted Margie’s head again. Margie was disappointed. She had been hoping they would take the teacher away altogether. They had once taken Tommy’s teacher away for nearly a month because the history sector had blanked out completely. So she said to Tommy, Why would anyone write about school? Tommy looked at her with very superior eyes. Because it’s not our kind of school stupid. This is the old kind of school that they had hundreds and hundreds of years ago. He added loftily, pronouncing the word carefully, centuries ago. Margie was hurt. Well, I don’t know what kind of school they had all that time ago. She read the book over his shoulder for a while, then said, ‘Anyway, they had a teacher’. Sure they had a teacher, but it wasn’t a regular teacher. It was a man. A man? How could a man be a teacher? Well, he just told the boys and girls things and gave them homework and asked them questions. A man isn’t smart enough. Sure he is. My father knows as much as my teacher. He can’t. A man can’t know as much as a teacher. He knows almost as much, I betcha. Margie wasn’t prepared to dispute that. She said, I wouldn’t want a strange man in my house to teach me. Tommy screamed with laughter. You din’t know much, Margie. The teachers didn’t live in the house. They had a special building and all the kids went there. And all the kids learned the same
thing? Sure, if they were the same age. But my mother says a teacher has to be adjusted to fit the mind of each boy and girl it teaches and that each kid has to be taught differently. Just the same, they didn’t do it that way then. If you don’t like it, you don’t have to read the book. I didn’t say I didn’t like it, Margie said quickly. She wanted to read about those funny schools. They weren’t even half finished when Margie’s mother called, Margie school! Margie looked up. Not yet, mamma. Now, said Mrs.Jones. And it probably time for Tommy, too. Margie said to Tommy. Can I read the book some more with you after school? Maybe, he said, nonchalantly. He walked away whistling, the dusty old book tucked beneath his arm. Margie went into the schoolroom. It was right next to her bedroom, and the mechanical teacher was on and waiting for her. It was always on the same time every day except Saturday and Sunday, because her mother said little girls learned better if they learned at regular hours. The screen was lit up, and it said, Today’s arithmetic lesson is on the addition of proper fractions. Please insert yesterday’s homework in the proper slot. Margie did so with a sigh. She was thinking about the old schools they had when her grandfather’s grandfather was a little boy. All the kids from the whole neighborhood came, laughing and shouting in the schoolyard, sitting together in the schoolroom, going home together at the end of the day. They learned the same things so they could help one another on the homework and talk about it. And the teachers were people….. The mechanical teacher was flashing on the screen. When we add the fractions ½ and 1/4 ……..’ Margie was thinking about how the kids must have loved it in the old days. She was thinking about the fun they had.
Glossary

Adjust (v) / make suitable (for use), attic (n) / small room just under the roof of a house (generally used for storing things) crinkly (adj) / krikli / full of small crease, not smooth, dispute (v) / dispjut / argue about, flash (v) / flae/ show for a few seconds, gear (v) / gia / arrange (a machine) to move at a certain speed, loftily (adv) / loftilli / in a proud manner, nonchalantly (adv) / nonelentli / in a cool manner, showing no interest, over-all (adj) / ouvercl / general, scornful (adj) / skomful / having a low opinion of something, sector (n) / sekte/ part, slot (n) / slat / opening, tuck (v) / tk / hold, press.

Comprehension – I

2. Is this a story about the past or the future? Does the author tell us when these incidents happened? (In what year? In what century?)

3. Did Margie and Tommy usually read books? How did they read them?

4. The words ‘book’, school and teacher each have two different meaning in this story. The two meanings of book are given below. Give, in the same way, the two meanings of school and teacher.

Book (1) 20th century: words printed on paper.
(2) 22nd century: words moving across a television screen

School (1) 20th century: Teacher (1) 20th century:
(2) 22nd century: (2) 22nd century:

5. Is the inspector mentioned in the story a man or a machine? What is the inspector’s job?

6. Look at the title of the story. Who were they? From whose point of view? What fun did they have?
Comprehension – II

1. Margie wrote in her diary that Tommy had found a real book. There is a word in this story which may be considered the opposite of a real book. What is that word?
2. Had Margie’s grandfather read ‘read books’ when he was young? How do you know?
3. The pages were ‘yellow and crinkly’. What does this show?
4. Tommy says: I wouldn’t throw it away. What is it? What, according to Tommy, can be thrown away?
5. When you’re through with the book…… Rewrite this sentence, using the verb finish
6. Which word in the fourth paragraph means useful or fit?
7. Did Margie and Tommy live in the same house? How do you know?
8. Did Margie hate school only because the teacher gave her a lot of tests in geography? What words in the text give you the answer?
9. He took the teacher apart. Does this mean that he took the teacher away or that he opened up the teacher?
10. …………. but he knew how all right ………. What words can you put in after how, without changing the meaning?
11. What did Margie learn when she was six years old? Choose one of the following:
   (b) How to put her homework and test papers into the following
   (c) How to write her homework and test papers.
   (d) How to write in a punch code.
12. What phrase in paragraph 11 means quickly?
13. Those things happen sometimes. What kind of things? (Just give an example)
14. Complete the following sentence correctly: They had once taken Tommy’s teacher away because the history sector had become a complete …………

15. What words show that Tommy thought he was much wiser than Margie?

16. What does Tommy mean by a regular teacher?

17. What was Margie prepared to dispute? What was she not prepared to dispute?

18. What made Tommy scream with laughter? Choose one of the following:
   (a) The idea of a strange man teaching Margie in her house.
   (b) Margie’s ignorance about the old schools.
   (c) The idea of a special building where all the kids went.

19. ……… teacher has to be adjusted to fit the mind of each boy………
   What other word in the story has the same meaning as adjusted?

20. Which of the following gives the meaning of just the same in paragraph 29?
   (a) in the same way  (b) in spite of that  (c) for that reason.

21. Did Margie’s mother want Tommy to go away? How do you know?

22. Put in one word to complete this sentence: The mechanical teacher had already been….. on and was waiting for her.

23. Margie did so with a sigh. What did she do?

24. She was thinking about the old schools they had ………. Did she wish she could go to such a school? How do you know?
**Spelling**

(a) Write out the plural forms of:

1. diary  
2. story  
3. century  
4. country

(b) Write out the ‘ing’ form of the following verbs. Note that you may have to add or omit certain letters before adding ‘ing’.

1. Write  
2. finish  
3. dispute  
4. pat  
5. move  
6. happen  
7. calculate  
8. sit  
9. begin  
10. listen

**Pronunciation**

(a) Here is a list of words ending in ‘ed’. The ‘ed’ is pronounced /d/ or /t/ or /id/. Examples: ‘loved’ /d/ ; ‘walked’ /t/; ‘hated’ /id/.

Now arrange the words in three sets under /d/ or /t/ or /id/. Notice that one word in the list can be put in two sets:

<table>
<thead>
<tr>
<th>turned</th>
<th>hoped</th>
<th>called</th>
</tr>
</thead>
<tbody>
<tr>
<td>asked</td>
<td>prepared</td>
<td>looked</td>
</tr>
<tr>
<td>printed</td>
<td>blanked</td>
<td>learned</td>
</tr>
<tr>
<td>headed</td>
<td>wanted</td>
<td>slowed</td>
</tr>
<tr>
<td>supposed</td>
<td>finished</td>
<td></td>
</tr>
</tbody>
</table>

(c) Practise saying the following words with the correct stress. You must stress the syllable immediately after the stress mark (‘)

1. ‘thir’teen  
2. ‘thirty  
3. e’leven
4. ‘progress
5. a’ddition

Vocabulary – I
Find single words in the passage which have roughly the meaning given below:

1. nearby area
2. of ordinary or usual standard
3. put inside
4. in fact
5. hundreds of years
6. part dealing with a particular subject

Vocabulary – II
Match the words given under A with the meanings given under B. List B has some extra items.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. adjust</td>
<td>(a) Part</td>
</tr>
<tr>
<td>2. slot</td>
<td>(b) in a proud manner</td>
</tr>
<tr>
<td>3. attic</td>
<td>(c) a hole or opening</td>
</tr>
<tr>
<td>4. nonchalantly</td>
<td>(d) general</td>
</tr>
<tr>
<td>5. sector</td>
<td>(e) very sorry</td>
</tr>
<tr>
<td>6. over-all</td>
<td>(f) in a manner showing no interest</td>
</tr>
<tr>
<td>7. scornful</td>
<td>(g) a small room just under the roof of a house</td>
</tr>
<tr>
<td>8. dispute (v)</td>
<td>(h) make suitable for use</td>
</tr>
<tr>
<td></td>
<td>(i) having a poor opinion of something</td>
</tr>
</tbody>
</table>
Tommy and Margie were friends. They were not the very careless (27); Tommy was older than Margie, and had seen more telebooks than (10) she had. Now he had found a real book and was showing it to Margie. It was about school – the kind of school children went to (15). In those days children did not have their own mechanical teachers; their teacher was a real person, who taught all the children (38). The children read books which were made of paper, with all the words printed on the paper so that they printed (3) instead of moving like words on a television (3). They wrote out their homework in ordinary writing, too, instead of a special way (11); and they handed their homework to their teacher (3) inserting it in a box (11) in a machine. Margie thought the children (41) school in the old days.

We have already noted one use of the definite article, in sentences such as: ‘The incidents which are described in this story happened in 2155.

We shall now look at another way in which ‘the’ is used. Observe the following sentence:

One day, Tommy found a book in his house. He showed it to Margie and they both began to read the book.
In the first sentence, we say a book because we are talking about it for the first time. In the second sentence, however, we say the book because it has already been introduction in the first sentence.

Use this information to fill in the gaps in the following, with a/an or the

• Margie had ……… Mechanical teacher in her house. Every day except Saturday and Sunday she sat in front of ……… Teacher to do her lessons.
• Tommy, too, had ….. mechanical teacher in his house. It had ….. big television screen. Tommy often saw telebooks on …………… Screen.
• There was ……… special room next to Margie’s bedroom. She called it school because her mechanical teacher lived in ……… room. She went into ….. room whenever it was time for school.
• Tommy’s house had ….. attic. One day he found ….. very old book in ….. attic.
• Margie kept ……… diary in which she wrote about important happenings. When Tommy found ……… real book, she wrote about it in ….. diary.
• Each county had ….. inspector to look after its teachers. Whenever ….. mechanical teacher went wrong, people sent for ….. man. He came and opened up ….. machine to see what had gone wrong.
• At first Margie thought that Tommy’s book was about ….. mechanical teacher. Then she realized that it was about ….. real teacher, who was ….. man, not ….. machine. Her first thought was that she would not like ….. strange man to come and tech her in her house.
• Margie’s mechanical teacher gave her not only lessons but also homework and test papers. It had ….. slot in which ….. homework and test papers had to be put.
Grammar – II

Observe the following sentences:

(a) Margie said, I hate school.
(b) Margie said that she hated school.

The first sentence gives us Margie’s words directly. The second sentence, on the other hand, gives them indirectly, by reporting what she said. Notice how, in the second sentence, the tense of the verb has changed (‘hate’ – ‘hated’) and also how the pronoun has changed (‘I’– ‘she’).

Here are some sentences in direct speech. Rewire them in indirect or reported speech? Look at the following example:
(a) Margie asked, ‘What is it about?’
(b) Margie asked what it was about.

Notice that, in addition to the change of tense (‘is’ – ‘was’), there is a change in the word order (‘is it’ – ‘it was’).

Rewrite the following questions in reported speech, using the hints given in brackets.
1. (a) Margie asked, ‘what is there to write about school?’
   (b) (Margie asked what there was ……. )
2. (a) She wondered, ‘How can a man be a teacher?’
   (b) (………. how a man could …….)
3. (a) Tommy asked, ‘What do people do when they have finished the book?’
   (b) (…….. What people did when they had…….)
4. (a) The inspector asked, ‘Where is the mechanical techer?’
(b) (……… where ..... was)

5. (a) Margie’s mother wondered, ‘Why does my daughter fail her geography tests?’
(b) (……… why her daughter…….)

**Composition – I**

If we have to describe something in a paragraph, we can make a plan by asking various questions about it. For example, here are some questions about a telebook:

1. Is it like an ordinary book?
2. In what way is it different?
3. How do people read it?
4. What is the advantage of telebooks?
5. What is the disadvantage?

Now, here is a paragraph based on the answers to these questions. Notice that it is a continuous paragraph, not a series of unconnected statements.

A telebook is quite different from an ordinary book. In an ordinary book, words are printed on pages and remain there. A telebook, on the other hand, consists of words which appear on a television screen and keep moving on it. People read a telebook by reading the words as they appear on the screen. The advantage of telebooks is that a great number of such books can be shown on a single television screen. The disadvantage is that we cannot turn back the pages to read something again.

Here are two more sets of questions. One of them is on the ordinary school (of the 20\textsuperscript{th} century). The other is on the mechanical teacher (of the
22nd century). Study the questions and write two separate paragraphs based on them.

(a) An ordinary school

2. Where is it? (In a special building or in each child’s house?)
3. Who goes to it?
4. Do they enjoy themselves? How?
5. Do they all learn the same things? Who are they taught by?
6. What is the advantage of such a school? (helping one another)
7. What is its disadvantage? (lesions not adjusted to each child)

(b) A mechanical teacher

1. What is a mechanical teacher? (not a man or woman, but a machine with a screen)
2. How does it teach? (Moving words on the screen)
3. Does it give homework and tests?
4. How must the answers be written? (punch code)
5. How does the machine receive the answers? (slot)
6. Can the speed of teaching be adjusted?
7. Can the teacher go wrong sometimes?
8. What can be done then? (inspector)
9. What is the advantage of such a teacher? (adjustment to suit each child)
10. What is its disadvantage? (your own opinion).
**Composition – II**

You probably know that several centuries ago, people wrote not on paper but on palm-leaf (e.g. in India) or on parchment, i.e. leather made smooth and soft (e.g. in Europe). They did not write with an ordinary pen and ink, but with a metal pen which was like a big needle. There were no printing presses; each copy of a book had to be written by hand.

Imagine a boy and a girl (give them names) of this century. The boy finds a book written, several centuries ago, on palm-leaf or parchment (choose one of the two). He is older than the girl and has read about such books. The girl does not know about such books, and is therefore puzzled by what they have found. The boy tells her what he knows and they then discuss the advantages (e.g. each book is something special and precious) and disadvantages (e.g. not many copies) of such books.

Now write out a conversation between the boy and the girl, using the above points and any other points that you can think of. You can being in the following way:

(Boy) Look what I have found!

(Girl) What is it?

(Boy) It’s a book

(Girl) A book! But it doesn’t look at all like a book. It’s not even made of paper.

(Boy) No, but they didn’t make books from paper in the old days. There was no paper at all in those days.

(Girl) What is it made of, then?

(Continue).
3. A ROBOT ABOUT THE HOUSE

- M.W. Thring

As civilization proceeds in the direction of technology, it passes the point of supplying all the basic essentials of life – food, shelter, clothes, and warmth. Then we are faced with a choice between using technology to provide and fulfill needs which have hitherto been regarded as unnecessary or, on the other hand, using technology to reduce the number of hours of work which a man must do in order to earn a given standard of living. In other words, we either raise our standard of living above that necessary for comfort and happiness or we leave it at this level and work shorter hours. I shall take it as axiomatic that mankind has, by that time, chosen the latter alternative. Men will be working shorter and shorter hours in their paid employment. It follows that the housewife will also expect to be able to have more leisure in her life without lowering her standard of living. It also follows that human domestic servants will have completely ceased to exist. Yet the great majority of the housewives will wish to be relieved completely from the routine operations of the home such as scrubbing the floors or the bath or the cooker, or washing the clothes or washing up, or dusting or sweeping, or making beds. By far the most logical step to relieve the housewife of routine, is to provide a robot slave which can be trained to the requirements of a particular home and can be programmed to carry out half a dozen or more standard operations (for example, scrubbing, sweeping and dusting, washing up, laying tables, making beds), when so switched by the housewife, It will be a machine having no more emotions that a car, but having a memory for instructions and a limited degree of instructed or built-in adaptability according to the positions in which it finds various types of objects. It will operate other more specialized machines, for example, the
vacuum cleaner or clothes washing machine. There are no problems in the production of such a domestic robot to which we do not have already the glimmering of a solution. When I have discussed this kind of device with housewives, some 90 per cent of them have the immediate reaction, ‘How soon can I buy one? The other 10 per cent have the reaction, I would be terrified to have it moving about my house – but when one explains to them that it could be switched off or unplugged or stopped without the slightest difficulty, or made to go and put itself away in a cupboard at any time, they quickly realize that it is a highly desirable object. In my own home we have found that, at first, the washing-up machine was regarded as a rival to the worker at the kitchen sink, but now there is no greater pleasure than to go to bed in the evening and know that the washing up is being done down stairs after one is asleep. Some families would be delighted, no doubt, to have the robot slave doing all the downstairs house work after they were in bed at night, while others would prefer to have it done in the mornings, but this would be entirely a matter of choice. It is impossible to predict in detail the shape and mechanism of the robot slave. It might carry its computer and response mechanism around with it and also its source of power; or it might operate with a computer stored in a cupboard under the stairs and the signals and information proceeding along a cable, which also carries the power from the mains, through the machine moving about the house. In this case it would unwind its cable as it went to a given room and wind it up again when it went back and put itself away under the stairs. It might carry its power, for example, by storage batteries, and have its instructions beamed to it by short wave short-range electromagnetic waves. The machine would have to be able to move about in a house designed for human beings and would therefore probably have to go through a normal door, open such a door and
close it, and walk up and down stairs or over irregularities on the floor. It will not look at all like a human being, but rather like a box with one large eye at the top, two arms, three hands, and a pair of long narrow pads on each side to support and move itself with. The problem of making the machine respond to the presence of objects in different places such as the foot of the stair case has already been solved, in partial prototypes. The chief difficulty is undoubtedly the coordination of hand and eye- for example, to teach the machine to distinguish between a knife and a fork and to lay them on opposite sides of the place at the table. However, it is true that the fundamental problem of distinguishing between objects of different shapes by a computer has already been partially solved and published, and therefore there is no basic problem in this. When one considers the immense change in the size and reliability of computers and all other electronic devices that has taken place, it is clear that computers for doing this type of control of movement according to sense impression will certainly be available. Preliminary work on the design of suitable walking and stair-climbing mechanisms has already shown that there are no major problems in this, and the design of arms with the necessary degrees of freedom and of hands both for picking up objects and for gripping and rotating and object indefinitely in either direction is well advanced. Storage batteries or directly fuelled cells will certainly be well enough developed to provide, say, 1 KW for 1 hour with a weight of 20 lb or so. Basically, applied science starts with the clear understanding of a human need and then uses all the available scientific knowledge to assist in the achievement and satisfaction of this need. Helping the housewife by eliminating the routine operations is the outstanding human need in the developed countries that calls for solution. The only problem is whether a sufficient number of applied scientists will
have recognized and decided to work for the achievement of this need and will have obtained the necessary financial backing. We can expect to see, first, the development of a robot for some purpose whenever money is no object, such as for rescuing people from burning houses or aeroplanes or putting out oil-well fires.

**Glossary**

- **adaptability (n)** / ability to change for a different use or for new conditions,
- **axiomatic (adj)** / assumed to be true without proof,
- **beam (v)** / bim / (in electronics) send, broadcast,
- **computer (n)** / a device (machine) which can either set takes for other machines or itself solve problems set for it by human programmers,
- **coordination (n)** / bringing into proper relation,
- **device (n)** / invention; something made for a specific purpose,
- **electronic (adj)** / using electrons, the tiniest particles of electricity,
- **eliminate (v)** / get rid of,
- **fundamental (adj)** / basic,
- **glimmering (n)** / faint possibility,
- **grip (v)** / grip / hold tight,
- **indefinitely (adv)** / in’definitli / without a limit,
- **outstanding (adj)** / aut’tanding / most important or obvious,
- **pad (n)** / paed / something made of, or filled with, thick soft material,
- **partial (adj)** / pa:1/ not complete,
- **predict (n)** / pri’dikt / say or tell in advance,
- **preliminary (adj)** / pri’liminrei / introductory, preparatory,
- **prototype (n)** / proutoutaip / model, especially the first model of a new device,
- **robot (n)** / roubot/ mechanism that acts like a man,
- **rotate (n)** / routeit / turn something round and round,
- **scrub (n)** / skrb / clean by rubbing hard with a brush dipped in soap and water.
Comprehension – I

1. This essay can be divided into two main parts, with the following sub-headings:

   Part I: The idea of a robot slave  
   Part II: Its technical aspects

   Where do you think the second part begins?

2. The first paragraph describes the context in which people may wish to have robots. There is another paragraph in the essay which describes the context in which robots may actually be developed. Which paragraph is it?

3. Which sentence tells us clearly that a robot slave is technically possible? Where else in the essay is the same point repeated?

4. What is the main point of the fourth paragraph? Choose one of the following:

   (a) A robot slave will be very useful, just as a washing-up machine is useful.

   (b) Housewives will welcome a robot slave, though some of them will have to get used to it just as they got used to having a washing-up machine.

   (c) Ninety per cent of housewives are in favour of a robot slave; the others are against it,

5. The author says that robots are an outstanding human need in the developed countries. Why developed countries? (Find the answer from the first paragraph).

6. Does the author suggest anywhere that a robot slave will at first be very expensive? If so, where?

7. In what connection does the author mention the following? (See the answer to the first item; answer the rest in the same way).
(1) Car: Robots will have no emotions, just as a car has none
(2) Vacuum cleaner:
(3) Irregularities on the floor:
(4) Knife and fork
(5) Oil-well fires:

8. Which of the following sentences describes correctly the author’s attitude in this essay?
(a) He is asking our scientists to develop such robots
(b) He is warning the common people that such robots will soon be developed
(c) He thinks it possible that such robots will be developed and is telling us why he thinks so.
(d) He wishes to develop such robots and is telling us why he wishes to do so.

Comprehension – II

1. Does the author think that everybody will get enough food, shelter and clothes in our technological civilization? What words give you the answer?
2. …… we either raise our standard of living above that necessary for comfort …… What does that refer to here?
3. The author accepts something as correct, without giving any arguments or evidence to prove it. What does he accept in that way? Does he tell us that he is doing so?
4. …… that mankind has, by that time, chosen the latter alternative. By what time? Which is the latter alternative?
5. Does the author say that men will be more and more idle in future years? If so, where does he say it? If not, what does he really say?
6. What words in the first paragraph mean, disappeared totally?
7. Will housewives wish to get rid of all their work or only some types of work? How do you know?

8. Will the robot slave have a mind? In what sense? (Find the answer from the second paragraph)

9. Is the author thinking of a robot slave which can be asked to do any kind of housework? What words give us the answer?

10. Will the robot slave have its own slaves? How do you know?

11. There are no problems in the production of such a domestic robot to which we do not have already the glimmering of a solution, Rewrite this sentence, beginning as follows: We already have the glimmering of a solution.....

12. When a domestic robot is produced, will a majority of housewives wish to buy it immediately? How can you tell?

13. When the author bought a washing-up machine, did his family like or dislike it at the beginning? Why?

14. But now there is no greater pleasure than to go to bed in the evening and know that the washing-up is being done downstairs. Rewire this, beginning: But now it is a great pleasure.....

15. What words tell us that bedroom are usually situated upstairs in western countries?

16. A robot must have two important things: (i) ability to understand and carry out orders; and (ii) energy to do so. How will these be provided? (See the fifth paragraph).

17. If the robot carries storage batteries as well as its computer, should there be a cable connecting it to a cupboard or electric point?

18. Will the robot look like a slave? How do you know?

19. Does the author think the robot will be able to lay the table for dinner?
How do you know?

20. What words in this passage tell us that the computer is and electronic device?

21. Does the seventh paragraph talk about problems connected with the mind of a robot or its body? What kind of problems are discussed in the previous (i.e. sixth) Paragraph?

22. Is the development of a domestic robot a branch of science in itself or an application of it? How can you tell, from the text?

23. The author mentions four things which are necessary for developing a domestic robot. The second and third are given below. What are the other two?

(2) The availability of scientific knowledge

(3) A sufficient number of applied scientists who are prepared to work on it.

24. What words in the last paragraph have the meaning not important?

25. Why does the author think of rescuing people from burning houses or aeroplanes or putting out oil-well fires? Choose one of the following.

(a) Because a domestic robot will have to do such things

(b) Because no one minds if a lot of money is spent on doing such things

(c) Because they are the most important needs in developed countries.
**Spelling**

Here is a list of words wrongly spelt. Either insert or take away a letter to put them right.

1. fulfill       6. indefinitely
2. cuboard       7. preliminary
3. desireable    8. financial
4. fueled        9. routin
5. vacuum        10. eliminate

**Pronunciation**

(a) We have seen how long sentences can be spoken with the right stress and rhythm by saying them in successive groups from the end. We can also learn to speak long sentences by saying them in successive groups from the beginning:

There are no problems in the production of such a domestic robot to which we don’t have already the glimmering of a solution.

Notice that the groups are marked off by

Now say

(1) There are no problems

(2) There are no problems in the production

(3) There are no problems in the production of such a domestic robot.

(4) There are no problems in the production of such a domestic robot to which we don’t have already

(5) There are no problems in the production of such a domestic robot to which we don’t have already the glimmering of a solution.
Now mark sentence stress and group divisions in these sentences and practice saying them:

1. The machine would have to be able to move about in a house designed for human beings and would therefore probably have to go through a normal door.
2. Helping the housewife by eliminating the routine operations is the outstanding human need in the developed countries that calls for solution.

(b) A limited number of words change their stress pattern according to their grammatical function. Examples:

<table>
<thead>
<tr>
<th>Noun</th>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object</td>
<td>object</td>
</tr>
<tr>
<td>Protest</td>
<td>protest</td>
</tr>
</tbody>
</table>

Now practice saying the following words after marking their stress:

<table>
<thead>
<tr>
<th>Noun</th>
<th>Verb</th>
<th>Adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proceeds</td>
<td>Proceed</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>subject</td>
<td>subject</td>
</tr>
<tr>
<td>Contrast</td>
<td>contrast</td>
<td></td>
</tr>
<tr>
<td>extract</td>
<td>extract</td>
<td></td>
</tr>
<tr>
<td>conduct</td>
<td>conduct</td>
<td></td>
</tr>
<tr>
<td>present</td>
<td>present</td>
<td>present</td>
</tr>
</tbody>
</table>

Notice the change in pronunciation from noun to verb.

**Vocabulary – I**

Find single words in the passage which have roughly the meanings given below:
1. wires conducting electricity
2. advanced
3. saving
4. freed
5. having to do with the home or household work
6. greater number or part

**Vocabulary – II**

Match the words given under A with the meanings given under B. List B has some extra items.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. axiomatic</td>
<td>(a) something made or used for a special purpose</td>
</tr>
<tr>
<td>2. fundamental</td>
<td>(b) proof</td>
</tr>
<tr>
<td>3. device</td>
<td>(c) first model</td>
</tr>
<tr>
<td>4. coordinate</td>
<td>(d) elementary</td>
</tr>
<tr>
<td>5. prototype</td>
<td>(e) ability to change for a different use or for new conditions</td>
</tr>
<tr>
<td>6. adaptability</td>
<td>(f) make two or more things work properly together</td>
</tr>
<tr>
<td></td>
<td>(g) assumed to be true without proof</td>
</tr>
<tr>
<td></td>
<td>(h) make a change</td>
</tr>
<tr>
<td></td>
<td>(i) basic</td>
</tr>
</tbody>
</table>
**Vocabulary – III**

Copy out the following paragraph and fill in the blanks with suitable words or phrases from the passage. The relevant paragraph number is given for each missing word or phrase.

By 1984 the outstanding problem in the ...... (8) countries will be that of relieving the housewife as far as possible of the ...... (1) of the home. The technology required to produce a robot slave is already ............ (7), and it is already possible to get some idea of what such a robot will ........ (5). The only problems in the production of such a domestic robot are ...... (8) enough ...... (8) will want to work on its development and whether ...... (8) money will be ........ (6) to pay for their research ...... (1) that the development of a robot for some purpose where .................... (8), such as for rescuing people from fires, will probably be the first achievement in this direction that we ........ (8).

**Grammar – I**

The definite article is used in many ways in English. We have so far seen four of its uses and shall now look at a fifth one. Observe the following sentences:

(a) Computers are electronic device.

(b) The computer is an electronic device.

These two sentences say the same thing. We say the computer in the second sentence, not because we are referring to a particular computer, but because we are referring to computer in general – i.e. to all computers. The first sentence does the same thing by using the plural form, computers. Here are some sentences like (a); rewrite them in the form of (b). Use any hints given in brackets.
1. (a) Housewives will wish to get rid of routine domestic work.
   (b) (The housewife …..)

2. (a) Robots are automatic machines that act almost like human beings
    (b) (….. an automatic …. acts ….. a human beings).

3. (a) Washing-up machines were at first regarded as rivals to housewives.
    (b) (…… a rival to the …..)

4. (a) Pure scientists make knowledge available while applied scientists use it for human welfare.
    (b) (…… makes ……. uses)

5. (a) Tax-payers do not complain if a lot of money is spent on rescue work.

Now here are some sentences like (b); rewrite them in the form of (a).

1. (b) The human domestic servant will have ceased to exist by that time.
    (a) (Human domestic servants …..)

2. (b) The vacuum cleaner has made it much easier to keep the floor free of dust and dirt.
    (a) (…… have ……)

3. (b) The motor-car has no emotions of any kind.

4. (b) The storage battery is now used in many kinds of machines.
    (a) (….. are …)

5. (b) The Englishman uses a knife and fork to eat his food with.
    (a) (….. use ..... their…..)

**Grammar – II**

Observe the following sentences:

(a) Perhaps civilization will proceed further in the direction of technology; it will then pass the point of supplying all the basic essentials of life.
(b) If civilization proceeds further in the direction of technology, it will pass the point of supplying all the basic essentials of life.

In (a), two clauses are put together loosely, by using a semi-colon; in (b), they are joined together more closely by if. Notice how the verb in the first clause has changed, from will proceed to proceeds. This is because will and shall are not normally used in if clauses; they are used only in main clauses (e.g. will pass). Notice also how the words perhaps and then are dropped when if is used.

The if clauses we are talking about here are different from the ones we discussed in a previous lesson (the one on An observation and an Explanation). There the if clause was about something imaginary that did not really happen in the past; here we are speaking of things that many actually happen in the future.

What is said about if clauses here is also true of when clauses. Observe the following:

(a) Developed countries will soon be able to provide food, shelter and clothing for all their people; they will then have a choice to make.

(b) When developed countries are able to provide food, shelter and clothing for all their people, they will have a choice to make.

Notice that will be is changed to are and then is dropped in (b).

Here are some sentences like (a); rewrite them in the form of (b), using if or when as indicated in brackets.

1. (a) Perhaps people will decide to have a much higher standard of living; then they will have to go on working the same number of hours.

(b) (If people decide …..)

2. (a) Perhaps people will not want a much higher standard of living; then they will be able to work shorter hours.
3. (a) Men will begin to work shorter and shorter hours in their paid employment; then women will also wish to have more leisure.
   (b) (When men begin ….)

4. (a) Human domestic servants will have ceased to exist; then it will be necessary to have robots to do the housework.
   (b) (When ….)

5. (a) The housewife will switch the robot on for a particular job; then it will go ahead and do it.
   (b) (When ….)

6. (a) Perhaps a housewife will feel frightened of the robot; then she can simply switch it off or send it into a cupboard.
   (b) (If ……)

7. (a) Someone will explain to the housewife that the robot is simply a machine, without any emotions; then she will realize that it is highly desirable.
   (b) (When ….)

8. (a) All the family will be in bed upstairs; then the robot slave will start the housework.
   (b) (When … are in bed ….)

9. (a) Perhaps the robot will carry its own computer and storage batteries; then it will not need a cable to connect it to the mains supply.
   (b) (If ……)

10.(a) Perhaps the robot will be connected by a cable to a computer in a cupboard; then it will have to wind up and unwind the cable as it moves about.
    (b) (If ….)
Composition – I

Study the following plan for a paragraph:

1. Situation  Technological civilization will soon have provided all basic necessities.

2. A Choice   Either (a) : Raise the standard of living further
   Or    (b) : Work shorter hours.

3. Consequence  If (a) : The same amount of work has to be done
   If (b) : The standard of living will continue at the same level.

Now read the following paragraph, which is based on this plan.

When our technological civilization has provided all the basic necessities of Life, we will have to make a choice. We may, on the one hand, decide to raise the standard of living further, desiring many things in addition to food, shelter and clothing. On the other hand, we may wish to work shorter hours in our paid employment and have more time for rest, recreation and hobbies. If we choose the former, we will have to go on working the same number of hours; and, if we choose the latter, we will have to be satisfied with the existing standard of living. It is likely that we shall choose the latter alternative.

Here is another plan, for a similar paragraph. Study it and then write a paragraph based on it.

1. Situation  We are ready to build domestic robots.

2. A choice  Either (a) : Make it carry its computer and storage batteries.
Or (b) : Keep the computer in a cupboard and connect the robot to the mains supply by means of a cable.

3. Consequence
If (a) : The robot will be heavy and perhaps too large and clumsy.

If (b) : The robot will have to wind up and unwind its cable as it moves about the house.

Composition – II

Imagine that the author of this essay on robots in talking to a housewife. The housewife expresses her fears doubts one by on and the author removes them by explaining various things about the robot. The housewife’s part of the conversation is given below. Write the author’s part of it.

Housewife  I don’t like the idea of having a robot in the house; I should be frightened to have such a thing moving about in my house.

Author  But it is just a machine. It can be unplugged ….

Housewife  Is such a robot technically possible? Aren’t there difficult problems in developing it?

Author  Yes, but we already heve…….

Housewife  How will it be able to understand and carry out orders?

Author  (Computer)

Housewife  How will it be powered?

Author  (Mains or batteries)

Housewife  What will it look like?

Author  ……

Housewife  When do you think such robots will be built?

Author  (finance)
4. A WRONG MAN IN WORKERS PARADISE

Rabindranath Tagore

The man had never believed in mere utility.

Having had no useful work, he indulged in mad whims. He made little pieces of sculpture-men, women and castles, quaint earthen things dotted over with sea-shells. He painted. Thus he wasted his time on all that was useless, needless. People laughed at him. At times he vowed to shake off his whims, but they lingered in his mind.

Some boys seldom ply their books and yet pass their tests. A similar thing happened to his man. He spent his earthlife in useless work and yet after his death the gates of Heaven opened wide for him.

But the Moving Finger\(^1\) writes even in Heaven. So it came to pass that the aerial messenger who took charge of the man made a mistake and found him a place in Workers Paradise.

In this Paradise you find everything, except leisure.

Here men say: ‘God! We haven’t a moment to spare.’ Women whisper: ‘Let’s move on, time’s a-flying., All exclaim ‘Time is precious’. ‘We have our hands full, we make use of every single minute,’ they sigh complainingly, and yet those words make them happy and exalted.

But this newcomer, who had passed all his life on Earth without doing a scrap of useful work, did not fit in with the scheme of things in Workers’ paradise. He lounged in the streets absently and jostled the hurrying men. He lay down in green meadows, or close to the fast-flowing streams, and was taken to task by busy farmers. He was always in the way of others.

A hustling girl went every day to a silent torrent (silent, since in the Workers’ paradise even a torrent would not waste its energy singing) to fill her pitcher.
The girl’s movement on the road was like the rapid movement of a skilled hand on the strings of a guitar. Her hair was carelessly done; inquisitive wisps stooped often over her forehead to peer at the dark wonder of her eye.

The idler was standing by the stream. As a princess sees a lonely beggar and is filled with pity, so the busy girl of Heaven saw this one and was filled with pity.

‘A- ha!’ she cried with concern. ‘You have no work in hand, have you?’

The man sighed, ‘Work! I have not a moment to spare for work’.

The girl did not understand his words, and said, ‘I shall spare some work for you to do, if you like’.

The man replied: ‘Girl of the silent torrent, all this time I have been waiting to take some work from your hands.’

‘What kind of work would you like?’

‘Will you give me one of your pitchers, one that you can spare?’

She asked: ‘A pitcher? You want to draw water from the torrent?’

‘No, I shall draw pictures on your pitcher.’

The girl was annoyed.

‘Pictures, indeed! I have no time to waste on such as you. I am going.’ And she walked away.

But how could a busy person get the better of one who had nothing to do? Every day they met, and every day he said to her, ‘Girl of the silent torrent, give me one of your clay pitchers. I shall draw pictures on it.’

She yielded at last. She gave him one of her pitchers. The man started painting. He drew line after line, he put colour after colour.
When he had completed his work the girl held up the pitcher and stared at its sides, her eyes puzzled. Brows drawn, she asked: ‘What to they mean, all those lines and colours? What is their purpose?’

The man laughed.

‘Nothing. A picture may have no meaning and nay serve no purpose.’

The girl went away with her pitcher. At home, away from prying eyes, she held it in the light, turned it round and round and scanned the painting from all angles.

At night she moved out of bed, lighted a lamp and scanned it again in silence. For the first time in her life she seen something that had to no meaning and no purpose at all.

When she set out for the torrent the next day, her hurrying feet were a little less hurried than before. For a new sense seemed to have wakened in her, a sense that seemed to have no meaning and no purpose at all.

She saw the painter standing by the torrent and asked in confusion: ‘what do you want of me?’

‘Only some more work from your hands.’

‘what kind of work would you like?’

‘Let me make a coloured ribbon for your hair,’ he answered.

‘And what for?’

‘Nothing.’

Ribbons were made, bright with colour. The busy girl of workers’ Paradise had now to spend a lot of time every day tying the coloured ribbon around her hair. The minutes slipped by, unutilized. Much work was left unfinished.

In workers’ Paradise work had of late begun to suffer. Many persons who had been active before were now idle, wasting their precious time on
useless things such as painting and sculpture. The elders became anxious. A meeting was called. All agreed that such a state of affairs had so far been unknown in the history of workers’ Paradise.

The aerial messenger hurried in, bowed before the elders and made a confession.

‘I brought a wrong man into this paradise,’ he said. ‘It is all due to him.’

The man was summoned. As he came the elders saw his fantastic dress, his Quaint brushes, his paints, and they knew at once that he was not the right sort for Workers’ Paradise.

Stiffly the president said: ‘This is no place for the like of you. You must leave.

The man sighed in relief and gathered up his brush and paint. But as he was about to go, the girl of the silent torrent came up tripping and cried: ‘Wait a moment. I shall go with you.’

The elders gasped in surprise. Never before had a thing like this happened in Workers’ Paradise—a thing that had no meaning and no purpose at all!

Comprehension-1

1. Is this a realistic story? could such things have actually happened? what parts of it could and could not happen in the real world?
2. Here are some things which the man did and didn’t do.

   (1) Didn’t do any work that was merely useful.
   (2) Made little pieces of sculpture.
   (3) Lay down in green meadows and by the side of flowing streams.
   (4) Painted pictures, and didn’t think a picture should have any meaning or purpose.
(5) Made bright-coloured ribbons for the girl’s hair.
(6) Spent a lot of time doing nothing.

What would you call such a man- an idler, an artist or a madman?

3. Make a similar list of the things which the people in Worker’s Paradise did and didn’t do. What do you think of such people? Do you admire them, dislike them or feel sorry for them?

4.  
   (1) The girl was at first ‘filled with pity’ for the man. why?
   (2) A little later, she ‘was annoyed’ with him. why?
   (3) Then, one day, she was ‘in confusion’ when she spoke to him. What does this show?
   (4) Finally, she declared that she would go with him. What made her do so?

5. The author seems to make fun of the man. He says for example, that the man ‘indulged in mad whims’ and ‘wasted his time on all that was useless, needless’. Do you think the author really dislikes the man? Or is he in sympathy with him?

6. Does the author make fun of Workers’ Paradise? If so, how and where?

7. What do you think is the main point of the story? Choose one of the following:
   (a) The love of an artist for a pretty girl.
   (b) The change of heart in a girl who used to believe in mere utility.
   (c) An opposition between happiness and beauty on the hand, and work and utility on the other.
   (d) The greatness of a society where no time is wasted and no idler is allowed to stay.

8. What is the attitude of the author in this story? Choose one of the following:
(a) He tells the story without taking sides.
(b) He pretends to be in sympathy with Workers’ Paradise but is really in sympathy with the man.
(c) He supports the young lovers against the elders.
(d) He makes fun of those who believe in Paradise.

**Comprehension-II**

Answer the following by choosing the best alternative (a, b, c, or d) under each. Think carefully before you make your choice.

1. The man
   (a) did not do any kind of work.
   (b) did only those things that gave him pleasure, whether or not they were useful.
   (c) did only those things which were useless, though they gave him no pleasure.
   (d) did only those things which were useful to himself.

2. ‘… but they lingered in his mind.’ ‘They’ here refers to
   (a) the people who laughed at him.
   (b) his vows.
   (c) the things he made (e.g. pieces of sculpture, paintings).
   (d) his whims.

3. Why does the author mention boys who pass their tests without studying their books?
   (a) In order to make us understand how the man passed into Heaven without doing any useful work.
   (b) In order to suggest that the man had been lucky even in his student days.
(c) In order to indicate that passing tests is as difficult as going to Heaven.
(d) In order to bring out the importance of reading books and doing useful work.

4. People in Worders’ paradise
(a) took pleasure in complaining about their work.
(b) had no time even to complain about their work.
(c) complained about their work and wished to have some leisure.
(d) felt happy and exalted when other people complained about their work.

5. ‘He was always in the way of others.’ This means that
(a) he was always imitating other people.
(b) he was always blocking other people’s way.
(c) he spent all his time on the road.
(d) he was always going to see other people.

6. ‘In the Workers’ Paradise, even a torrent would not waste its energy singing.’ This sentence is meant to
(a) state a fact.
(b) praise fun of the man.
(c) make fun of the man.
(d) make fun of the Workers’ Paradise.

7. Who or what looked eagerly ‘at the dark wonder’ of the girl’s eye?
(a) The man.
(b) The people of Workers’ Paradise.
(c) Inquisitive persons.
(d) Her own hair.

8. The author’s description of the girl suggests that
(a) she was beautiful.
(b) she was not very attractive.
(c) she was even more busy than others.
(d) she was the princess of that place.

9. ‘I have not a moment to spare for work.’ This means
   (a) ‘I have so much work that I cannot spare a moment for anything else.’
   (b) ‘I have never done any work even for a moment.’
   (c) ‘I have so many other things to do that I have no time at all for work.’
   (d) ‘I have spent every moment of my time looking for work.’

10. ‘I have no time to waste on such as you.’ This means
    (a) ‘I shall not waste time as you are doing.’
    (b) ‘I shall not waste so much time on you.’
    (c) ‘I shall not waste time on people like you.’
    (d) ‘I shall not help you to waste your time.’

11. The girl took the painted pitcher home and looked at it from all angles. It had a strange effect on her. The author’s description of this effect shows that
    (a) she had fallen in love with the man.
    (b) she felt the influence of a beautiful object for the first time.
    (c) she found it very difficult to understand the meaning and purpose of the picture
    (d) she was worried about what to say to the man the next day.

12. The girl spent ‘a lot of time every day tying, the coloured ribbon around her hair’. This was because
    (a) she admired the ribbon as well as how her hair looked in it.
    (b) she did not know how to tie a ribbon around her hair.
(c) she had to do it without anyone’s knowledge.
(d) she was trying to make herself attractive to be man.

13. ‘This is no place for the like of you.’ This means
   (a) ‘This place is not liked by you.’
   (b) ‘This place is not like your place.’
   (c) ‘This place is not likely to keep you.’
   (d) ‘This place is not meant for people like you.’

14. when the elders asked the man to leave Workers’ Paradise, the man was
   (a) disappointed.
   (b) pleased.
   (c) worried.
   (d) shocked.

15. At the end of the story,
   (a) the elders won against the man.
   (b) the girl won against the elders.
   (c) the man won against the elders.
   (d) the man won against the girl.

**Spelling**

(a) Insert ‘ie’ or ‘ei’ to complete the following words:

1. effic…………nt                      6. rel……….f
2. l………….sure                       7. rec…….pt
3 .s………….ze                         8. Gr……..f
4. y………….ld                         9. …….ther
5. p………….ce                         10. Cr……d

(b) Complete the following words by adding ‘er’ or ‘ar’:

1. ling                             4. messeng
2. guit                             5. simil
Pronunciation

(a) We have seen how the stress shifts in some words according to their grammatical function. Here is a further list of such words. Arrange them under Noun, Verb, and Adjective and mark stress.

1. desert
2. export
3. produce
4. content
5. alternate
6. absent
7. torment
8. invalid
9. rebel
10. Segment

Practice saying these words with the right stress and pronunciation. Notice the changes in pronunciation with the shift in stress.

(b) Here is a list of short and long sentences. Mark sentence stress and group divisions and practice saying them with the right rhythm.

1. But the Moving Finger writes even in Heaven.
2. The man had never believed in mere utility.
3. What kind of work would you like?
4. We haven’t moment to spare.
5. He was always in the way of others.
6. The girl’s movement on the road was like the rapid movement of a skilled hand on the strings of a guitar.
7. But how could a busy person get the better of one who had nothing to do?
8. All agreed that such a state of affairs had so far been unknown in the history of Workers paradise.

Vocabulary-I

Find single words in the passage which have roughly the meanings given below:
1. feeling joyful or successful
2. running or dancing with quick, light steps
3. work busily with or at
4. moving quickly and with energy
5. struggled for breath
6. looking inquisitively

**Vocabulary-II**

Match the words given under A with the meanings given under B. List B has some extra items.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>quaint</td>
<td>(a) push against</td>
</tr>
<tr>
<td>peer</td>
<td>(b) usefulness</td>
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<tr>
<td>whim</td>
<td>(c) old-fashioned</td>
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<tr>
<td>jostle</td>
<td>(d) remain</td>
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<tr>
<td>linger</td>
<td>(e) look closely</td>
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<tr>
<td>utility</td>
<td>(f) rush about</td>
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<td></td>
<td>(g) pleasing because of its unfamiliar appearance</td>
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<td></td>
<td>(h) of everyday importance</td>
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<tr>
<td></td>
<td>(i) strange desire of little value</td>
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**Vocabulary-III**

Copy out the following paragraph and fill in the blanks with suitable words or phrases from the passage. The relevant paragraph number is given for each missing word or phrase.
The new principal ……………………(1) hard work and in a proper use of ……………………(5). As soon as he for too long. ‘There is ……………………(20) on ……………………………………(35) and playing the guitar,’ he told the students. ‘You must make good use of ………………………………………(6), either in study or in useful work such as cleaning the school building or watering the school garden.

The students ………………………. (41). It was obvious that …………………………..(7) was going to be very different under their new principal. ‘This is ……………………………………… (39) us,’ they whispered to each other.

**Grammar-I**

This story is all in the past tense except two paragraphs in it. Which paragraphs are they?

These two paragraphs are in the present simple tense (‘In this Paradise you find…,’ ‘Here men say…’) probably because the author is talking about the habits of the people of Workers’ Paradise. (There may also be another purpose: to suggest that such people exist today. Do you agree?) When we talk about people’s habits at the present time, we use the present simple tense, e.g. ‘Some students neglect their books and waste their time’. We also use the present simple tense when we talk about the characteristics or properties of objects, e.g. ‘Petrol evaporates easily.’

(a) Study the following paragraph, which is in the past simple tense and which describes the man’s habits.

The man did not believe in mere utility. He did not do any work unless it satisfied his sense of beauty and gave him happiness; and he did the things that made him happy, even if they were not useful to anyone. For example
he made little clay figures and painted pictures. He spent a lot of time idling about. He lay down in green meadows or by the side of flowing streams.

Now, imagine that the man is talking to the girl about himself, describing all his habits. The beginning of his speech is given below. Continue and complete it. (Use the paragraph given above as a basis.)

‘I don’t believe in more utility. I don’t …’

(b) Next, imagine the man watching the girl as she hurried to the torrent every day. Describe what he thought in a short paragraph. Use the hints given below.

The man thought: ‘Every day this girl ……. to fill her pitcher. Her movement … Her hair….’

**Grammar-II**

We have already seen how statements and certain questions in direct speech are changed into indirect speech. Let us now see how certain other questions are changed into indirect speech. Observe the following:

(a) The girl asked: ‘Have you no work in hand?’

(b) The girl asked whether he had no work in hand.

Or The girl asked if he had no work in hand.

Notice the change in tense (‘have’ - ‘had’), the change in the order of words (‘have you’ - ‘he had’) and the use of ‘whether’ or ‘if’.

Here are some sentences like (a); rewrite them in the form of (b), using the hints in brackets.

1. (a) The girl asked, ‘Can I give you some of my work?’
   (b) (…if she could…)

2. (a) The man asked the girl, ‘Will you give me one of your pitchers?’
   (b) (… Whether she would…)

3. (a) The girl inquired, ‘Do you want to draw water from the torrent?’
4. (a) The man asked, ‘Can I draw pictures on your pitcher?’
   (b) (… if …)
5. (a) The girl asked angrily, ‘Do you think I have time to waste on people like you?’
   (b) (… Whether …)

Now, here are some sentences like (b); rewrite them in the form of (a).
1. (b) The girl asked the man whether he wanted anything more from her.
   (b) (The girl asked the man, ‘Do you…?’)
2. (b) The man inquired if he could make a coloured ribbon for her hair.
3. (b) The girl asked whether coloured ribbons were of any use.
4. (b) The girl asked if the pictures he had drawn on her pitcher had any meaning.
   (a) (…, ‘Do … you have drawn …. have …?’)
5. (b) The man asked her if there weren’t many good things in life which had no meaning and no purpose.
   (a) (…, ‘Aren’t … which have …?’)

**Composition-I**

(a) Imagine that the man kept a diary in which he wrote about important happenings. He had not written anything in it for a long time, but on the day he talked to the girl for the first time, he wanted to write about their conversation. What would he write? Perhaps something like the following:

Some time ago, I completed my earthlife and then found myself in this strange place. I don’t know how I came here – perhaps by mistake. The people here are busy all the time. They have everything except…
Every day I see a girl rushing to a silent torrent to fetch water. This morning she talked to me. She asked me if…

Continue and complete both the paragraphs, adding a few sentences to each.

(b) Now imagine that the girl also kept a diary. The day after she had received the painted pitcher from the man, she wanted to write about the man- how he suddenly appeared one day and how he spent his time in Workers’ Paradise. Then she might describe how she talked to him one day, how he asked her for a pitcher to paint, how she refused at first but yielded after a few days and how, the day before, he returned the pitcher to her with all kinds of bright colours on it. Finally, she might describe her own thoughts and feelings about the picture.

Write about all this in three short paragraphs, beginning as follows:
I want to write here about a strange experience which I had yesterday. But first I must say something about the man who was the cause of it. He suddenly appeared one day....

Composition-II
Let us now see how we can write a brief ‘appreciation’ of this story. That does not mean simply telling the story; nor does it mean merely praising the story and its author. We have to say just how we understand the story and, secondly, why we like (or dislike) it. The following can be an over-all plan for such an essay:

1. The story (in about 6 sentences)
2. Its meaning (4 or 5 sentences)
3. The author’s attitude (3 or 4 sentences)
4. The style (2 or 3 sentences)

Let us next fill in the details of this plan, as follows:
1. The story
   (1) The man (What was his nature?)
   (2) Workers’ Paradise (What did people do there?)
   (3) The girl (What was she doing?)
   (4) The painting (Where? What effect did it have?)
   (5) Coloured ribbons.
   (6) Result (the man asked to go; the girl’s declaration).

2. Its meaning
   (1) Opposition between the man (sense of beauty, art) and Workers’ Paradise (mere utility).
   (2) The girl changes from one to the other (‘a new sense seemed to have wakened in her’); many others do the same.
   (3) Who wins in the end? (The power of art and beauty.)

3. The author’s attitude
   (1) Pretends to make fun of the man (e.g. ‘mad whims’; ‘useless, needless’).
   (2) But really makes fun of Workers’ Paradise (e.g. ‘silent torrent’, ‘no meaning and no purpose’)

4. The style
   (1) Often like a poem (e.g. the girl’s movement, hair; the effect of the painted pitcher).
   (2) Humorous comparisons (e.g. boys passing tests; princess seeing a lonely beggar).

Now write a short essay of four paragraphs based on this plan.
5. MAKING SURGERY SAFE

-Horace Shipp

1. A French chemist in Lille studying why wine and beer turned bad in the vats;\(^1\) an English surgeon in Glasgow desperately fighting to save his patients from the awful scourges of disease as wounds or the incisions from their operations became septic; a Hungarian doctor in Vienna equally desperate at the terrible death-roll\(^2\) of the mothers after the children were born in his maternity hospital.

Pasteur; Lister; Semmelweis.

2. In the early 1860s these three men knew nothing of each other, but each of them was working towards a discovery which saved millions of lives, revolutionized surgery, gave vast results in matters of our food, and supplied the clue to hundreds of diseases. That discovery was germs, microbes, the minute organisms which could only be seen through the most powerful microscopes, but which bred a life of their own\(^3\) able to destroy the living tissues infected by them.

3. It was in surgery that most spectacular results of that discovery were obtained, and it was there that the battle between the new idea and the old prejudices was fought out most dramatically. Its coming into that field changed the whole conditions under which operations were performed, and so enormously extended its possibilities that we reckon the art in two eras:\(^4\) one covering the history of mankind from the earliest times to this time of Lister; the other, the period since. For in ancient India, in Egypt, Greece and Rome, surgery was practiced, and the instruments and knowledge were already remarkable. If it stagnated under mediaeval influences, it revived again under such men as Paracelsus in the sixteenth century, and moved steadily
forward through the seventeenth and eighteenth centuries as human anatomy and physiology yielded their secrets to the scientists. In the nineteenth century one great discovery came to the aid of the surgeon when James Young Simpson experimented with anaesthetics, and so gave him time to perform his delicate work on patients unconscious of pain.

4. But one terrible thing remained wrong.

5. In every hospital, whether from some original injury or from the surgeon’s knife, wounds became inflamed, turned gangrenous or developed some similar terrible degeneration, and in a few days the patient died as the whole blood stream became poisoned. Terrible epidemics of this ‘Hospitalism’, as they called it, would sweep through the wards. Often the authorities would deliberately close a hospital for a time to try to stamp out the plague. But always it returned. Even the simplest operation—the removal of a single joint of a finger, the lancing of an abscess—would prove fatal; and no operation was possible on the delicate parts of the human body, for almost inevitably they became infected, and however skilful the surgeon had been the patient died.

6. In a great Glasgow hospital a brilliant young surgeon named Joseph Lister fought this evil. He was an earnest young man, son of a Quaker family, and he had consecrated his life to this task of making surgery safe. Once he said, concerning a wound that was healing healthily: ‘It is the main object of my life to find out how to procure such a result in all wounds.’ He had already set his feet along the right track by studying inflammation, making strange experiments with the foot of a frog and the wing of a bat under his microscope.
7. Said another great scientist: ‘In the field of observation, chance only favours the mind which is prepared.’

8. Lister’s mind was marvelously prepared. Other men accepted defeat; they thought vaguely that there were gases in the air which caused wounds to become septic. Lister’s own teacher had stated that surgery had reached finality; but Lister worked on. He suspected that there were minute organisms which entered wounds and set up their own life-destroying life there, degenerating human tissue as the greenfly will destroy the rose. He began his experiments for some substance which would destroy this lower form of life,\textsuperscript{11} or build some barrier between it and the open wound.

9. He found what he wanted in a powerful disinfectant, a by-product of coal-tar, which he learned that the authorities at Carlisle were using on their sewage. It was called carbolic. Lister introduced it into the hospital wards, into the operating room, into his surgical bandages. He dipped his instruments in it, and his swabs were rinsed in it. He even sprayed the air around with a fine mist of carbolic while he performed his operations. Joseph Lister had introduced antiseptic surgery.

10. It is fascinating that away in his maternity hospital in Vienna, Dr Semmelweis had reached the same conclusion. There, with greater violence even than in Britain, the thing flared into\textsuperscript{12} an unreasoned persecution of the pioneer by the old traditional men. Semmelweis published his idea of antiseptics; he was persecuted, reviled, laughed at, and dismissed from his post for advocating this new method. He was driven temporarily insane;\textsuperscript{13} but, recovering, continued his experiments in private. In one of them he contracted the blood-
poisoning he was seeking to eliminate and died: a martyr to truth, a prophet of progress who gave his life in a great cause.

11. Over in France the chemist, Louis Pasteur, had just published his studies of the cause of fermentation in wines. He demonstrated that the dust of the air contained minute organisms which increased and multiplied themselves in a kind of fungus when they came into contact with the right conditions. He conducted the most careful experiments which took place in the dust–laden air of Paris did not do so in the pure glacial air on the high Alps.

12. When Lister read of these experiments he saw that in them, as he had long suspected, lay the final clue to his own problem. It was not until years afterwards that he heard of Semmelweis, but already an opposition similar to that which broke the Hungarian was growing here. Simpson himself, who as he the pioneer of anaesthetics had suffered a similar persecution for his own innovations, led the attack; and soon the old bringing all their weapons of ridicule and wild accusation to bear on the ‘Spray and Gauze’ school, as they called Lister’s methods. One of the ugliest fights of Lister’s career was with the Glasgow Infirmary where he had started his practice of antiseptic surgery, for they bitterly resented an attack upon the position of their buildings, which happened to be built a few feet above a cholera pit where hundreds of bodies were still decaying!

13. But Lister worked on. For nine months there were no cases of the dreaded ‘Hospitalism’ in the wards under his control. Terrible fractures and gaping wounds, which inevitably would have become septic under the old treatment, healed themselves when treated by his antiseptics and given their barrier of carbolic against the infected air.
Operations performed by his sterilized instruments and cleaned with his sterilized swabs left cuts which naturally healed, when under the old system they would have broken down into gangrene or some other of the dread hospital diseases. Childbirth lost one part of its terrors, for the horror of septic conditions starting up after the child was born became almost eliminated. It was the fight of al new idea against the old, and gradually the new won out.

14. On the Continent, in Copenhagen and Leipzig, in Munich, and under the great doctor Volkmann, at Halle, the idea of antiseptics expanded to that even greater one of creating operating theatres and operating conditions which give no place at all for microbes. The antiseptics of Lister evolved into the aseptic of modern surgery. Steam-sterilized overalls,\textsuperscript{21} caps, makes and rubber gloves on doctors and nurses; perfectly sterilized instruments, operating tables, and theatres, took the place of the old germ-infected operating rooms, doctors in garments blood-infected operating rooms, doctors in garments blood-stained from a hundred operations, instruments which carried bacteria from one patient’s festering wound to the next, and sponges which had been perfunctorily rinsed out in a little warm water. In the wards too, if absolute scientific aseptic conditions were impossible, antiseptic ones were insisted upon.

15. Microbes, germs: these enemies of mankind had at last been discovered. By the quiet persistence of the truth-seekers, working upstream against the flow\textsuperscript{22} of ancient prejudice, mankind has centered into new realms of health, and the borderlines of death have been pressed farther back.\textsuperscript{23}
Comprehension-I

(On the first part of the essay (paragraphs 1-9), ending with: ‘Joseph Lister had introduced antiseptic surgery.’)

(a) 1. Why are three different people mentioned in the first paragraph?
    Choose one of the following:
    (b) Because they all lived at the same time.
    (c) Because they helped to solve the same problem.
    (d) Because they all worked together as a team.

2. Can you tell, from the first paragraph, the name of the ‘Hungarian doctor in Vienna’?

3. Was surgery the only field that was influenced by the discovery of microbes? How do you know?

4. ‘We reckon the art in two eras.’ What is ‘the art’ referred to? Which is the second of the two eras?

5. Did surgery make much progress in the Middle Ages? How can you tell?

6. Did the discovery of anaesthetics belong to the first era of surgery or the second?

7. What were the effects of ‘Hospitalism’ in a wound?

8. Did the terrible disease affect animals as well as human beings? How do you know?

9. Was Lister’s own teacher one of the men who accepted defeat?

10. ‘He found what he wanted in a powerful disinfectant.’ What did he find?

(b) Read the following statements carefully. Only ten of them are true, according to the essay you have read; the other fifteen are false. Pick out the true statements.
1. This essay tells us how, in the 1860s, three different scientists in England were working towards an important discovery.

2. Pasteur was a chemist by profession.

3. Only the most powerful microscopes can destroy harmful germs.

4. When microbes get into a wound, they quickly increase in number and destroy the cells of the body.

5. The new discovery had its effect only on surgery.

6. The new discovery was immediately welcomed by doctors everywhere.

7. The history of surgery really starts with Lister.

8. Surgery had been practiced in various parts of the world a long time before Lister.

9. Under mediaeval influences, new instruments of surgery were developed and knowledge about surgery made remarkable progress.

10. Surgery benefited greatly from the discoveries made in human anatomy and physiology in the seventeenth and eighteenth centuries.

11. Until the nineteenth century, a surgical operation was extremely painful to the patient.

12. Gangrene can poison the whole bloodstream and cause death.

13. ‘Hospitalism’ was the name given to surgery in those days.

14. Often a hospital had to be closed for a time because its patients had died.

15. No operation was possible on the delicate parts of the human body because, almost inevitably, the surgeon himself became infected and died, however skilful he may have been.

16. Lister said that the main object of his life was to make every wound heal healthily.
17. Lister told another great scientist that, in the field of observation, chance only favoured the mind that was prepared.

18. Lister was lucky in his discovery but this was because he was working with frogs and bats.

19. Lister’s mind was marvelously prepared to accept defeat.

20. Lister did not believe that infection of wounds was caused by gases in the air.

21. Lister suspected that there were minute organisms which entered wounds and destroyed their own life.

22. Lister’s own teacher had stated that surgery would make great advances as a result of Lister’s experiments.

23. Lister had introduced antiseptic surgery before he introduced carbolic into the hospital wards and the operating room.

24. Lister came to know that the authorities at Carlisle were using carbolic in their hospitals.

25. When Lister used carbolic in the operating room and the hospital wards, he was in fact introducing antiseptic surgery into medical science.

Comprehension-II
(On the second part of the essay (paragraphs 10-15), beginning with: ‘It is fascinating….’)

(a) 1. Who was ‘the pioneer’ that was persecuted ‘by the old traditional men’?

2. Did Semmelweis get back his job in the hospital? How do you know?

3. Did Pasteur believe that fermentation was caused by gases in the air?
4. What was the important difference between the air in Paris and the air on the Alps? Choose one of the following:
   (a) The air on the Alps was ice-cold while the air in Paris was warmer.
   (b) The air in Paris was dust-free while the air on the Alps was not.
   (c) The air in Paris contained a lot of minute organisms while the air on the Alps did not.

5. Did the same people that had opposed Semmelweis now oppose Lister? How do you know?

6. Was Simpson on Lister’s side or on the opposition?

7. ‘… for they bitterly resented an attack upon the position of their building.’ Who resented the attack? Who made the attack? What was the position of the buildings?

8. ‘Childbirth lost one part of its terrors.’ What does this mean? Choose one of the following:
   (a) Childbirth became safe in one respect.
   (b) The child was often lost in terror at birth.
   (c) The air in Paris contained a lot of minute organisms while the air on the Alps did not.

5. Did the same people that had opposed Semmelweis now oppose Lister? How do you know?

6. Was Simpson on Lister’s side or on the side of the opposition?

7. ‘… for they bitterly resented an attack upon the position of their buildings.’ Who resented the attack? Who made the attack? What was the position of the buildings?

8. ‘Childbirth lost one part of its terrors.’ What does this mean? Choose one of the following:
   (a) Childbirth became safe in one respect.
(b) The child was often lost in terror at birth.
(c) There was no longer any danger in childbirth.

9. What is the difference between antiseptic surgery and aseptic surgery? (Answer in one or two sentences.)

10. Two things show Lister’s great courage in the face of difficulties. One is that he went on working for a solution to the problem when others had accepted defeat. What is the other?

(b) Only ten of the following statements are true, according to the essay. Read each statement carefully and say which ten are true:

1. In Vienna the epidemic of blood-poisoning flared up with even greater violence than in Britain.
2. Semmelweis was dismissed from his job at a maternity hospital.
3. Semmelweis became mad and, as a result, contracted blood-poisoning.
4. Semmelweis believed that antiseptics would make childbirth safer.
5. Louis Pasteur was also trying, at about the same time, to find out the true cause of blood-poisoning.
6. Pasteur demonstrated that the dust in the air formed a kind of fungus.
7. Pasteur showed that very small organisms were the cause of fermentation.
8. Lister made use of the published results of Pasteur’s experiments.
9. It was years later that Lister read about the experiments made by Pasteur and Semmelweis.
10. Simpson and Lister were both persecuted at the same time.
11. Lister called his methods the ‘Spray and Gauze’ school.
12. The old brigade of medical men attacked the position of the cholera pit at Glasgow Infirmary.
13. Lister told people that there was a cholera pit under the buildings of the Glasgow Infirmary.
14. The authorities of the Glasgow Infirmary were very angry with Lister for nine months showed that his methods were successful.
15. For nine months Lister had no opportunity to use his new methods of surgery.
16. The absence of any case of blood-poisoning among Lister’s patients for nine months showed that his methods were successful.
17. Major fractures and large wounds were sure to become septic under the old system of surgery.
18. Under the old treatment, only major fractures and large wounds would have become septic.
19. Lister’s new method consisted of using carbolic as a barrier against the infected air.
20. The old system consisted of performing operations with sterilized instruments and cleaning wounds with sterilized swabs.
21. The use of sterilized instruments and swabs often made a wound break down into gangrene.

James Young Simpson was able to …… part of the terrors of surgery by developing anaesthetics which enabled him to ……. operations while his
patients were ……. But one terror remained: too many of the incisions from his operations were liable to ……. and refuse to …… It was the ……. of Joseph Lister’s life to discover what caused this degeneration and to prevent it. At last his experiments began to…..the result he wanted: the healthy healing of wounds. He had found a substance which would destroy the ……. organisms which caused the dreaded ‘Hospitalism’. This substance was a by-product of coal-tar called carbolic, and from now on Lister used it to ……. Everything connected with an operation. Sadly, the success of his new method only led Lister’s enemies to ……. him the more bitterly; but fortunately they were unable to delay for long the spectacular advance of antiseptic surgery.

**GRAMMAR – 1**

Observe the tense of the verb in each of the following sentences:

(a) Lister introduced antiseptic surgery in the 1860s.

(b) Since then antiseptic surgery has developed into aseptic surgery.

(c) Nowadays doctors practice aseptic surgery wherever possible.

The first sentence is about something that happened at a definite time in the past (in the 1860s) and its verb is in the simple past tense (introduced). In the second sentence, we are not told when the event took place, except that it was at some time before now. Here the present perfect tense (has developed) it used. The third sentence describes something that happens generally at the at the present time and the tense used is the simple present (practice).

Using these three sentences are models, write two other sentences for each of the following. Use the hints given:
1 (a) A hundred years ago, childbirth was full of dangers.
   (b) (By now ….. (lose) most of its dangers).
   (c) (These days ….. (be) quite safe.)

2 (a) Before the time of simpson, surgery was extremely painful for the patients.
   (b) (Since Simpson’s time ….. (becomes) more and more painless ……..)
   (c) (Now …… (be) quite painless…….)

3 (a) In the Middle Ages, few new experiments were made in surgery.
   (b) (Since then, many ……)
   (c) (These days ….. all the time in many parts of the world)

4 (a) (Pasteur …. In fermentation)
   (b) Since then, scientists have shown the usefulness of many other kinds of bacteria.
   (c) (Nowadays the usefulness of bacteria …. and turned to advantage in many fields)

5 (a) (Lister and Semmelweis ….. great prejudice…..)
   (b) (………… less and less prejudice…..)
   (c) Today scientists face very little prejudice against their findings.

**GRAMMAR – II**

We have already seen how questions in direct speech are changed in reported speech. For example:

(a) Lister asked, ‘What can the cause of Hospitalism be?’
(b) Lister asked what the cause of Hospitalism could be. Very often questions appear in reported speech without the word ask. For example:

(a) Pasteur was studying (the questions): Why do wine and beer turn bad in the vats?

(b) Pasteur was studying why wine and beer turned bad in the vats.

Notice how the tense of the verb changes (do …… turn bad – turned bad) and also how the order of the words is slightly different (do wine and beer turn – wine and beer turned)

Here are some sentences like (a); rewrite them in the form of (b)

1. (a) Surgeons wondered (about the question): Why do wounds become septic?
   (b) (…… Wondered why wounds…..)

2. (a) Lister was anxious to find out (the answer to the question): How can every wound be made to heal properly?
   (b) (…. How every wound could be…..)

3. (a) Semmelweis was worried about (the question) : How can mothers be saved from death after childbirth?
   (b) (…… worried about how …..)

4. (a) Simpson had discovered (the answer to the question) : How can a patient be made unconscious during an operation?

5. (a) The discovery of microbes showed (the answer to the question) : Why cannot food be kept fresh for a long time without special care?

Next, here are some sentences like (b); rewrite them in the form of (a)

1. (b) Simpson could not understand how the use of carbolic could prevent septic conditions.
2. (b) Lister was trying to find out how a barrier could be built between the minute organisms and the open wound.

3. (b) Pasteur asked himself why wine fermented well in Paris but not on the Alps.

4. (b) Lister’s opponents were unable to understand why Lister talked about the cholera pit under the Glasgow Infirmary.

5. (b) Lister’s teacher could not see how there could be any further progress in surgery.

**COMPOSITION – I**

Read the following. It describes an imaginary conversation between Simpson and Lister.

Simpson asked Lister how his Spray and Gauze method could solve the problem of Hospitalism. Lister said that the use of an antiseptic such as carbolic created a barrier between the wound and the minute organisms which caused the trouble. Simpson called this nonsense and Lister then asked him how else the wounds could degenerate the way they did. Simpson pointed out that there might be gases in the air which caused the decay of tissues. Lister asked if Simpsons asked lister to produce evidence for his theory of organisms. Lister simpson said that he had read them but did not see any connection between the fermentation of wine and blood-poisoning. Lister said that pasteur’s findings contained a clue to his own problem and that he was going to prove his theory if only he could get a fair chance of doing so. Simpson said that Lister’s theory did not even deserve a
trial. In reply, Lister asked if Simpson had forgotten how his own theory of anaesthetics had been criticized unreasonably only a few years before.

Now, rewrite the passage in the form of a dialogue whose beginning is given below:

Simpson : Mr Lister, how can your Spray and Gauze method solve the terrible problem of Hospitalism?
Lister : The use of an antiseptic such as carbolic creates a barrier between the wound and the minute organisms which cause the trouble.
Simpson : Nonsense

**COMPOSITION – II**

Here are some facts about four of the scientists mentioned in the essay:

<table>
<thead>
<tr>
<th>Scientist</th>
<th>Place of work</th>
<th>Problem</th>
<th>Findings</th>
<th>Result</th>
</tr>
</thead>
</table>
| 1. Simpson    | Britain       | How to make an operation painless for the patient | Anaesthetics      | 1. Persecution for some time  
2. acceptance and praise |
| (doctor)      | (Edinburgh)   |                                              |                   |                                             |
| 2. Semmelweis  | Vienna        | How to stop septic conditions after childbirth | Antiseptics       | 1. publication  
2. persecution  
3. madness  
4. recovery  
5. death |
| (doctor)      | (maternity hospital) |                                              |                   |                                             |
| 3. Pasteur    | France        | What caused fermentation in wine and beer     | Minute organisms in dustladen air | Supplied the final clue to Lister’s problem |
| (Chemist)     |               |                                              |                   |                                             |
Here is a short paragraph, based on these facts, about Simpson. Study it and then write three more paragraphs on the other three scientists.

Simpson was a British doctor. He studied the problem of how to make a surgical operation painless for the patient. After a great deal of research, he discovered the use of anaesthetics which made the patient unconscious of pain and thus gave the surgeon time to perform the operation properly. Simpson’s new method of surgery was criticized by traditional men, and Simpson was persecuted for a time. But he was soon able to prove the success of his method and the use of anaesthetics was then generally accepted. Simpson was then praised for his contribution to surgery.