# TYPEWRITING
# AND
# COMPUTER OPERATION

## [OFFICE SECRETARYSHIP - OSS]

### VOCATIONAL EDUCATION
### HIGHER SECONDARY - FIRST YEAR

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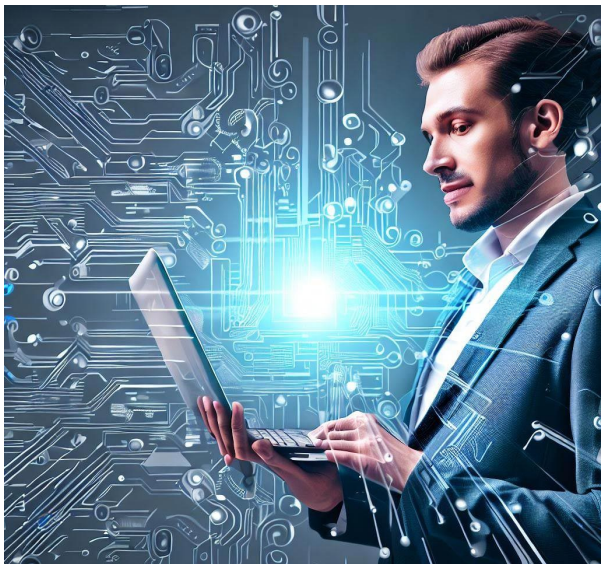
## AND
# COMPUTER OPERATION

## [OFFICE SECRETARYSHIP - OSS]

### VOCATIONAL EDUCATION
### HIGHER SECONDARY - FIRST YEAR

**Untouchability is a sin**
**Untouchability is a crime**
**Untouchability is inhuman**



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7080854902

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## PART - A

## TYPEWRITING AND COMPUTER OPERATION
## AN INTRODUCTION

Our Tamilnadu Government has designed a New Educational System in Vocational Scheme, for Vocational students in the Higher Secondary level especially for 'Typewriting' learning pupils under Office Secretaryship (OSS) Group. This book has been brought in a simple way and easy to understand by the students.

Typewriter is a device for writing with neater letters; for doing quicker and better work; for taking more copies and for reading the typed matters easily. It is a gift for us, and one of the Developments in 'Science and Technology' world. In ancient times, people used 'Palm leaves' and then papers for their writing purposes. But, in handwriting, the letters are not legible and understandable to read by others, which seem to be as scribbled. By using the machine (Typewriter), we can get the work neatly and accurately; with less strain, time saving and economy in stationery

For the welfare of our students, Pictures have been given for explanation and they can easily understand to operate the Keyboard and learn its mechanism ; 'Fingering' practice can also be developed. This book contains 'hand-written scripts' for practicing and to understand other various handwritings.

When we learn Typewriting/Computer Operation, more attention must be given to sitting posture to avoid body pain, and strain to the spinal cord. The Table for keeping Typewriter/ Computer should have the height of 2 $\frac{1}{2}$ ' and a comfortable stool/chair,(18"-6").

This book '**Typewriting and Computer Operation**' brings enthusiasm and stimulate the students to enter into 'Vocational Education' especially to type-wring and computer operation. Lucid style



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and simple diction combined with pictures and apt illustrations make this book interesting and attractive, It is aimed to improve and inspire the exiting knowledge of Typewriting and Computer.

Students are the Pillars of our future Nation. This 'Vocational Education' creates self-confidence to the children. By learning this course, the future students can avoid to see the 'No vacancy' board; but they can create their own employment under 'Self Employment Scheme' and boldly face the unemployment problems.

'Vocational Education' stands first in the developed countries of this World. We should also give more important to 'Vocational Education' to become a self-sufficient Country and be a 'Super Nation Power'.

At the end of this book, a model question paper and some 'important points to be remembered' are given for **Typewriting and Computer Operation**. Students can utilize these, and prepare for the examination.

Names and places, in this book, are all fictions. Some models, scripts and pictures have been taken from DOTE-question papers and other public publications for the welfare of our students' practice and we thank the respective departments.

Finally, I thank my collogues who co-operated with me to bring out this much successfully. On behalf of the Vocational students, Teachers and my team I thank Our Tamilnadu Government especially the Educational Department for publishing a special Text Book through 'Tamilnadu Textbook Corporation' for Vocational Education under newly framed syllabus for '**Typewriting and Computer Operation**' .

**- Author**



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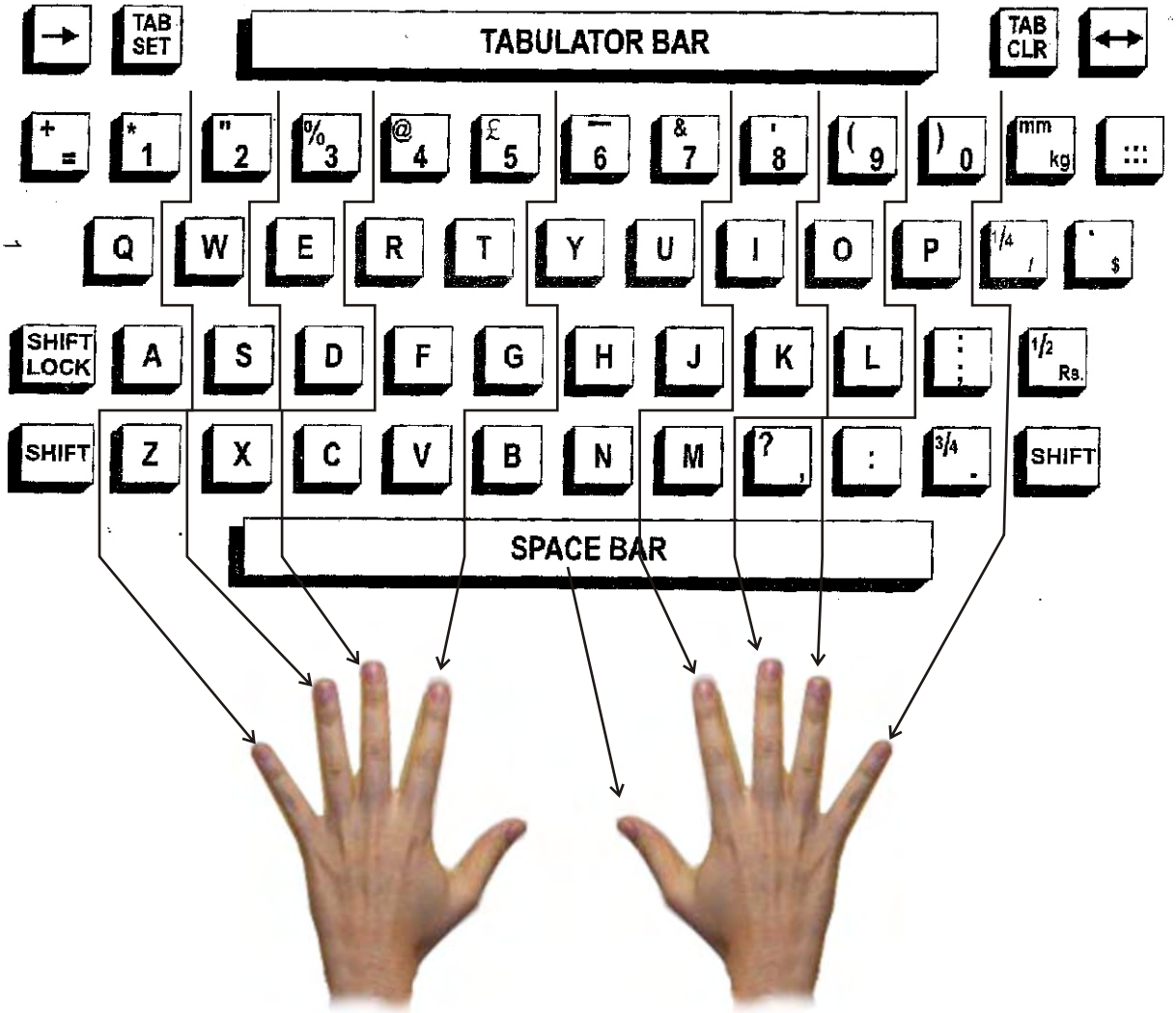
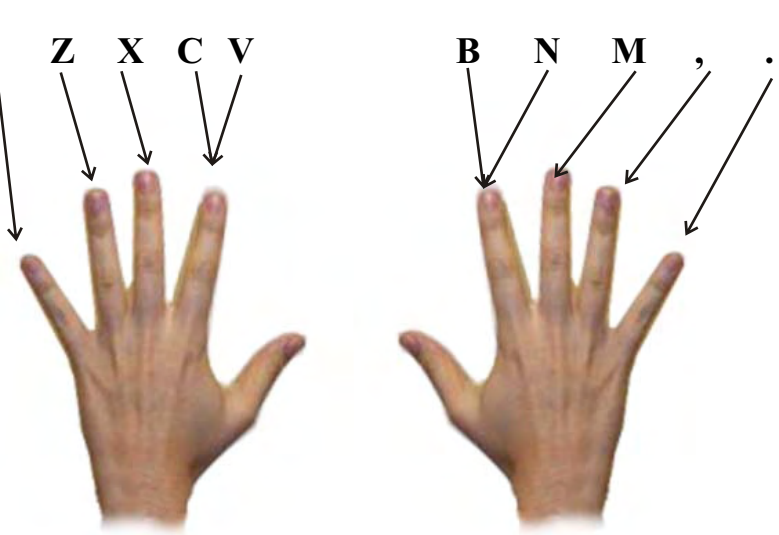
# 2. KEY BOARD


TAB SET
TABULATOR BAR
TAB CLR
SHIFT LOCK
SHIFT
SHIFT
SPACE BAR

# 3. FINGERING CHART

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1st | Row | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| 2nd | Row | Q | W | E | R | T | Y | U | I | O | P |
| 3rd | Row | A | S | D | F | G | H | J | K | L | ; |
| 4th | Row | | Z | X | C | V | B | N | M | , | . |

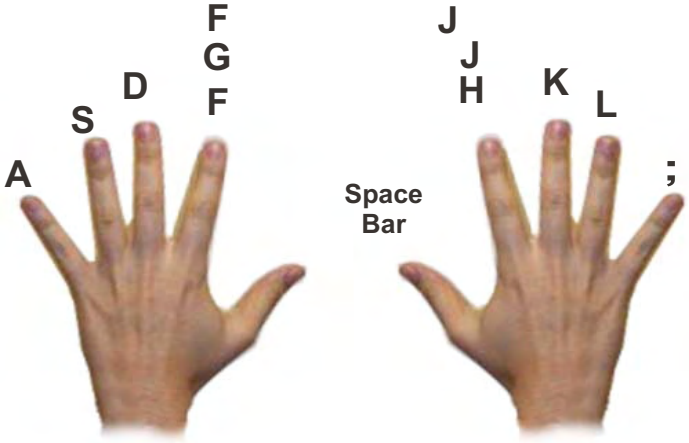


LEARNING PRACTICES : BUDGET BOOK

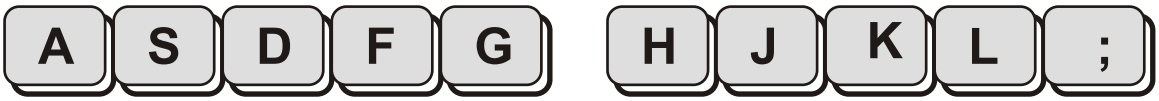
| | | | | | |
|---|---|---|---|---|---|
| FIRST EXERCISE | - | LESSON I : | | asdfgf | ;lkjhj |
| SEND ON EXERCISE | - | LESSON II : | | awerqfa | ;oiupj; |
| THIRD EXERCISE | - | LESSON III | : | gftfrf | hjyjuj |
| FORTH EXERCISE | - | LESSON IV: | | azxcvfa | lkmnbj |
| FIFTH EXERCISE | - | LESSON V : | | abcdefghijklmnopqrstuvwxyz<br>Zyxvutsrqponmlkjihgfedcba | |
| SIXTH EXERCISE | - | LESSON VI | : | NUMBERS –(123454 098767) | |
| SEVENTH EXERCISE (LEFT & RIGHT) | - | LESSON VII | : | USING THE SHIFT KEYS | |
| EIGHTH EXERCISE | - | LESSON VIII: | | PRACTICING IN SENTENCE FORM | |

# 4. FIRST EXERCISE - LESSON - 1

**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**




**A and ; - by using little fingers (left and right respectively)**
**s and l - by using ring fingers**
**d and k - by using middle fingers**
**f and j - by using forefingers**
**g and h - by using forefingers**



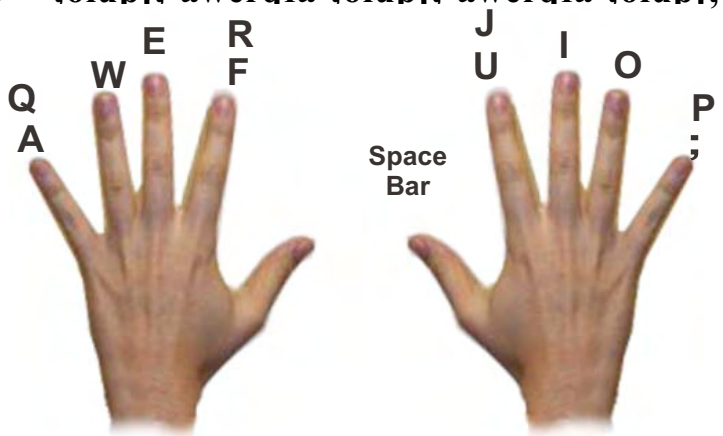

**TYPE THE FOLLOWING AND PRACTICE AS PER THE INSTRUCTION OF THE TEACHER:**

**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**
**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**
**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**
**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**
**asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj asdfgf ;lkjhj**

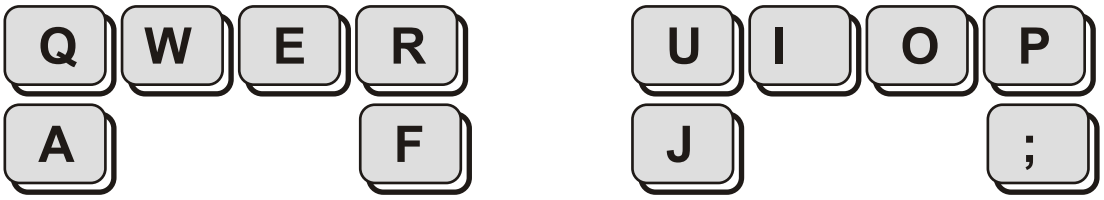
| | | | | | | |
|---|---|---|---|---|---|---|
| ask | fad | alsas | shad | lads | flags | flask |
| jag | fag | fall | hash | glad | galls | salad |
| jak | had | gaff | dash | gall | flash | slash |
| sad | lad | adds | lash | hall | lakhs | dhalls |
| dad | asks | alas | dall | fall | glass | shall |

# SECOND EXERCISE - LESSON - II

**awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj;**




**a and ; - by using little fingers (left and right respectively)**
**w and o - by using ring fingers**
**e and i - by using middle fingers**
**r and u - by using forefingers**
**q and p - by using forefingers**
**f and j - by using forefingers**




**TYPE THE FOLLOWING AS PER THE INSTRUCTION OF THE TEACHER:**

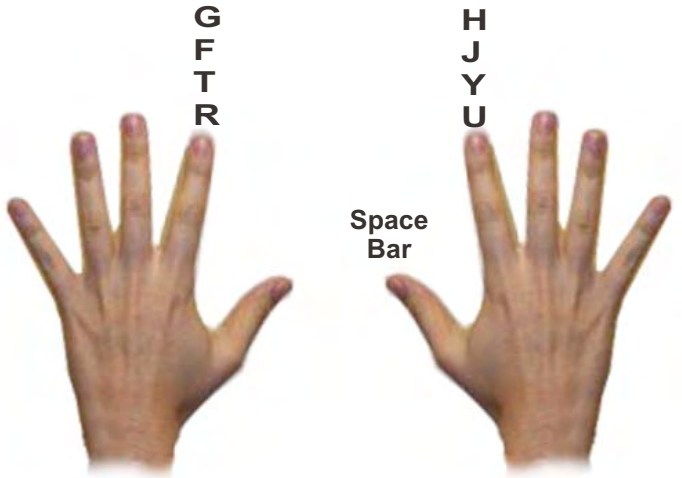
awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj;
awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj;
awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj;
awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj; awerqfa ;oiupj;

**TYPE THE FOLLOWING WORDS EACH 5 LINES:**

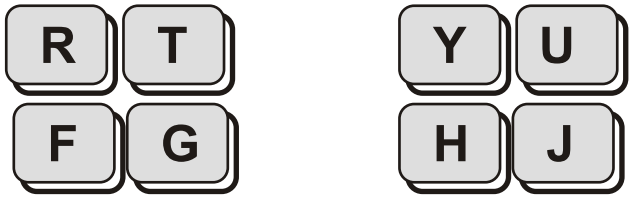
fish dirks oldest apple grade falls Kodak rails jaded
dead usual sales filed legal lease lakes agile isles
ahead larks roses hedge forks skill rupee grass would
alpine jaded liked equip quail jokes asked walks fiddle
saddle larger require defiles drawls refresh

# THIRD EXERCISE - LESSON - III

**gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj**




| gftfrf | hjyjuj | gftfrf | hjyjuj | gftfrf | hjyjuj |
|---|---|---|---|---|---|
| g | and | f | - | Fore finger | |
| t | and | f | - | Fore finger | |
| r | and | f | - | Fore finger | |
| h | and | j | - | Fore finger | |
| y | and | j | - | Fore finger | |
| u | and | j | - | Fore Finger | |




**TYPE THE FOLLOWING AND PRACTICE AS PER THE INSTRUCTION OF THE TEACHER:**

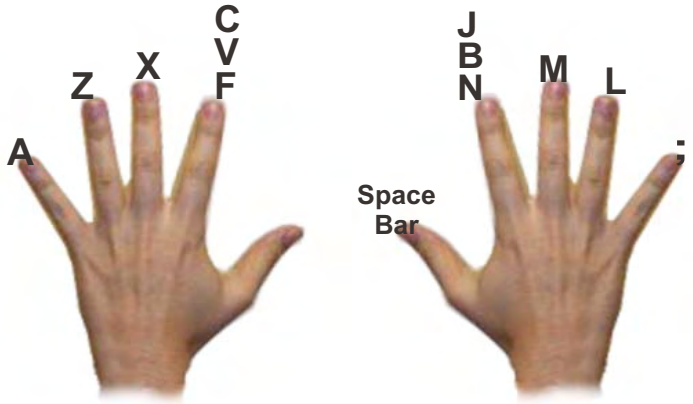
gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj
gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj
gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj
gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj gftfrf hjyjuj

**TYPE THE FOLLOWING WORDS EACH 5 LINES:**

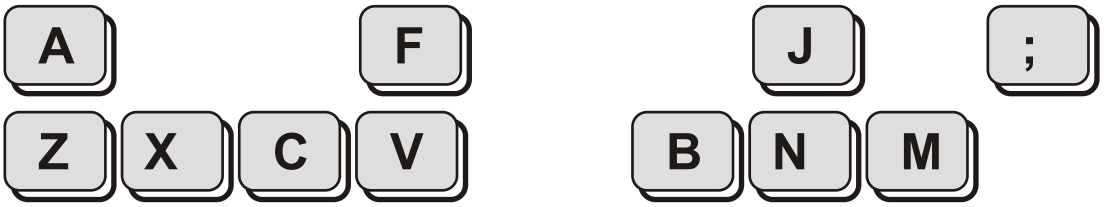
lawyers desired prepare feathery repeated
etiquette yesterday desire waggish typist
kettle further quoted ledger outdoor
pleased theatre tortuous gallery opposed
outflow priority freehold thorough dearly
assisted adopt allowed ploughed typewriter

# FOURTH EXERCISE - LESSON - IV

**azxcvf lkmnbj azxcvf lkmnbj azxcvf lkjmnbj**




| | | | | |
|---|---|---|---|---|
| a | | | - | Little finger |
| z | and | l | - | Ring finger (left & right) |
| x, k | and | m | - | Middle finger |
| c, v | and | f | - | Fore fingers |
| n, b | and | j | - | Fore fingers |




**TYPE THE FOLLOWING AND PRACTICE AS THE INSTRUCTION OF YOUR TEACHER:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj |
| azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj |
| azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj |
| azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj |
| azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj | azxcvf | lkmnbj |

**TYPE THE FOLLOWING WORDS EACH 5 TIMES:**

| | | | | | | |
|---|---|---|---|---|---|---|
| cat | jack | colour | neither | enemy | boat | Calcutta |
| not | have | joints | calling | voted | very | vineyard |
| met | wind | nerves | enlarge | money | move | material |
| men | verb | verbal | someone | marry | give | sterling |
| bent | joint | jackets | examine | thousand | cylinder | assessment |
| king | carry | jumbled | examined | struggle | possible | beginning |
| zeal | night | booklet | gracious | grizzled | frequent | meanings |
| zero | tonic | cutting | becoming | zodiacal | exponent | doubtless |

# FIFTH EXERCISE - LESSON - V

**TYPE THE FOLLOWING ALPHABETS FOR FINGERING PRACTICE:**

abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.zyxwvutsrqponmlkjihgfdcba
abcdefghijklmnopqrstuvwxyz., ,.Zyxwvutsrqponmlkjihgfdcba

**TYPE THE FOLLOWING WORDS EACH 5 TIMES:**

| | | | | | |
|---|---|---|---|---|---|
| Cosmo | instant | youthful | personnel | correspond | xanthophylls |
| Quota | zigzags | up-board | witnessed | fulfilling | contemplate |
| necy., | morning | hitherto | pessimism | technology | distributor |
| etc., | brevity | emphasis | peasantry | indulgence | formulating |
| viz., | written | impulses | tolerance | privileges | controversy |
| doz., | endorse | judgment | elevation | rejuvenate | sacrificing |

**TYPE THE FOLLOWING SENTENCES EACH FIVE TIMES:**

1. Lost time is never regained.
2. Get- up early and do your work.
3. To-day's youth and to-morrow's old.
4. Age is a virtue when wisdom is with it.
5. Measure your word before it goes out of you.
6. My steps are measured.
7. A friend in need is a friend indeed.
8. Children are innocent and should be guided rightly.
9. Our Land has great sages who knew the eternal truth.
10. Truth never fails.

# SIXTH EXERCISE - LESSON VI

**LEARNING NUMERICALS: TYPE THE FOLLOWING NUMBERS AS PER THE INSTRUCTION OF YOUR TEACHER:**

| | | | | | |
|---|---|---|---|---|---|
| 123454 | 098767 | 123454 | 098767 | 123454 | 098767 |
| 123454 | 098767 | 123454 | 098767 | 123454 | 098767 |
| 123454 | 098767 | 123454 | 098767 | 123454 | 098767 |
| 123454 | 098767 | 123454 | 098767 | 123454 | 098767 |
| 123454 | 098767 | 123454 | 098767 | 123454 | 098767 |

**TYPE THE FOLLOWING NUMBERS EACH 5 TIMES:**

| | | | | | | |
|---|---|---|---|---|---|---|
| 153 | 4586 | 48766 | 1298 | 96842 | 67,492 | 9,18,17,615 |
| 765 | 9539 | 97530 | 6541 | 78646 | 65,431 | 10,87,43,111 |
| 187 | 7654 | 65431 | 2244 | 98761 | 78654 | 4,16,22,44,882 |
| 786 | 1009 | 28761 | 7755 | 87652 | 97531 | 9,34,53,05,090 |
| 440 | 5599 | 76542 | 4174 | 9442 | 805515 | 9,89,45,82,990 |

# SEVENTH EXERCISE - LESSON VII

**(USING OF SHIFT KEYS - LEFT & RIGHT )**

**TYPE THE FOLLOWING WORDS USING SHIFT KEY: EACH 5 TIMES:**

| | | | | | |
|---|---|---|---|---|---|
| January | February | March | April | May | June |
| July | August | September | October | November | December |
| Tamil | English | Tamilnadu | Andhra | Karnataka | Orissa |
| Maharastra | Delhi | Himalaya | Simla | India | Srilanka |
| America | Calcutta | Kolcatta | Tailand | England | Kuwait |
| West Indies | Africa | German | Russia | Rome | Kerala |
| Parthiban | Dikshaya | Anandan | Vidiya | Vijayanthi | Glory |
| Trinita | Feeba | Glory | Kumar | Balaji | Shyamala |
| Freeda | Joel | Royston | Rajini | Kamal | Sivaji |

| | | | | |
|---|---|---|---|---|
| Superintendent | Confidential | Government | Schedule | Notification |
| Secretary | Proceedings | Reference | Subject | Enclosure |



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# 5. TYPING PRACTICE : LESSON VIII

## (A). TYPE THE FOLLOWING SENTENCES EACH TEN TIMES

1. Pack my box with five dozen liquor jugs.
2. A quick brown fox slowly jumped over the lay dogs.
3. Five prizes were quickly distributed by the judge to examiners.
4. Handy Jack's quixotic laziness may grow to be far expensive.
5. Gay men with extra pluck and zeal would often have quiet job.
6. Black market fugitive should be quickly expelled with zeal.
7. May we have Jack squires fix the big lamps for Andy Ziegler?
8. Have you seen my brother-in-Law Jayavendan?
9. The partition of India affected more than 506 of our people.
10. Balaji worked with zeal and vigour.
11. Joel & Subashini took their child on 2nd January 2005 for Kuwait.
12. Messers Parthiban & Co., Ltd were great toy makers.
13. The son got ¾ and the daughter Dikshaya ¼ of their shares.
14. The French Revolution war was in the year 1709
15 Received 5 sets of Typist's Tables (2'-5”) & chairs (18” 6” )
16 Now the cost of gold is very high. (One gram=Rs.1,500/=)
17 Every Indian should say “No Partition”.
18 Leave 2 spaces after (.) and (?)
19 Punctuation should be marked carefully.
20 Character builds a good family.
21. Service to the Community is humanity.
22. Anandan got cent percent result in his subject.
23. We must be proud of our Nation.
24. Untouchability is a sin. Untouchability is a crime and also inhuman.
25. Time and tide wait for none. So, make use of the time. All the best.



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# TYPING PRACTICE : LESSON IX

**(B). Type the following in double line spacing with a margin of ten degree:**

**Type the following paragraphs each five times:**

Our National Flag has bite Ashok Chakra on it. This wheel is symbol of DHARMA. It we always do the right things, we follow DHARMA. The twenty four spokes in the wheel show the differences between our-people. A small circle connects these spokes. It shows that we are one. The wheel also shows that we are going forward.

Our flag is a tri-colour. Saffron is the symbol of sacrifice and a strong mind. White is the symbol of purity, love and peace. Green is the symbol of plenty and joy. We hoist and salute our flag. We are ready to make sacrifices for our country. We want peace and progress. We want to be pure.

Our 'National Anthem' is a song of the great poet Tagore. It was his prayer song. He sings about the people, mountains, rivers and seas of India. He says that God is the master of all these and everyone and everything in India praise him. We sing this song in colours with respect.

All of us salute our National Flag and sing our National Anthem. This shows that we are one nation. We also promise to love and respect our country, our parents, elders, teachers and all others in India.

**SOME ADVANTAGES OF HIGH SELF-ESTEEM**

There is a direct relationship between people's feelings and their productivity. High self-esteem is evident in respect for one's self, others, property, law, parents and one's country. The reverse is also true.

**LOW SELF ESTEEM**

How do we recognize poor self-esteem? What are the behavior patterns of a person with poor self-esteem? The following is a brief list, which is not all inclusive but is indicative.

# TYPING PRACTICE : LESSON X

(C). Scripts to be Practiced by typing the following:

1. A leads letters Ancient Lord
   Leads and Lords the entire world.
2. Lore worth learning learn flawlessly
   Live by that learning throughly.
3. That lore is vain which does not fall
   At his good feet who knowth all.
4. In grace and gain the house excells
   where love with virtue sweetly dwells
5. Industry adds Prosperity
   Indolence brings but Poverty
6. A father's duty to his son is
   to seat him in the front of the wise.
7. A mother hearing her son's merit
   delight more than when she begot.
8. A help rendered in hour of need
   though Small is greater than the world.
9. Doing good turns put them to shame
   Thus Chide the evils who do harm.
10. what is truth the question be
    It is to speak out evil free.

11. my dear brothers and sisters, take Note of this: Every one should be quick to listen, slow to speak and slow to become angry, for man's anger does not bring about the righteous life that God desire. Therefore, get rid of all moral filth and the evil that is so Prevalent and humbly accept the word Planted in you, which can save you.



WealthGO

# 6. SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Education and training in cosmetology takes you straight to the world of glamour and excitement and allows you to explore the opportunity to work with hair, skin or mails depending upon your choice. The different combinations of chemicals allow to create the right type of product for hair, skin or mails. Thought the possibilities in the field of cosmetology are endless, you do require education or training in this field to be able to find the right path for yourself. The aim of a make-up artistes to brining out beauty without making it look like a disguise. Make-up artists apply cosmetics to enhance a client's appearance as also create any image a particular job calls for. The artist should be inclined artistically like blending, shading or creating.

A make-up artist can establish himself in a salon with a private clientele, become make-up director for a prestigious department store, represent a line of cosmetics, work in Television and Movie production, find a position with a fashion magazine or work behind the scenes in theatre production. Operating as an independent free lancer allows you to create your own schedule or find employment with one company. The make-up artists should concentrate on chemistry and anatomy if they want to make it to the top. Theatre experience, especially a study of stage lighting can be really helpful. Six months to one year work experience in a good salon is important after training.

Volunteering your services to community theatres, fashion shows etc., will not only provide experience but also help in establishing contact with people who may be important to your career. Star Campbell Place a master of make-up artistry, says that achieving delicate effects takes years of concrete training. The more time you invest in preparing for this career the longer your career will be and the more you will get out of it. It allows you to be independent mobile and employable. You can begin by developing a portfolio that can be presented to a potential client. The portfolio can include before and after photograph so make-over you have performed, along with any awards or certificates you may have earned.

The job of Skin Care Specialist (Aesthetician) here is to offer treatments to perfect the look and health of the skin. The aesthetician can work in a salon, teach, travel giving demonstrations or become a consultant to a cosmetic company. The training for this job should be in a beauty salon which specializes in or emphasizes on facial treatments. These training courses are always short so he should make the best use of them. The specialist must read as much as possible about skin care so that there is a touch of authority in what he says.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

The invention of paper is closely-linkedwith the history of human civilization. Although the modern printing industry is generally considered to have bon out of the invention of movable types of Johan Gutenberg in 1455, the Chinese had been printing on paper many hundreds of years earlier. Paper was first produced in China in about 105 AD when papyrus and parchment were being used in Mediterranean countries. Tortoise shell, bone metals, stones, bamboo slips, wooden tables and silk were used as writing materials in China before the invention of paper. It took centuries to perfect the technology of producing vegetable fibre paper. Initially, the raw materials used was hemp, rope ends, rags and worn out fishing nets etc. The oldest sample of paper from Wester Han Dynasty wasdiscoveredin1957 in Shaanxi Province of China.

The ancient Egyptians used papyrus as writing materials, which is derived from th plant Cypenus papyrus. The Papyrus was long cultivated in the Nile delta region in Egypt and was collected for its stalk or stem, whose central pith was cut into thin strips, pressed together and dried to form a smooth thin writing surface. Papyrus is a grasslike aquatic plant that has woody, blunt triangular stems and grows up to 4.6 cm high in quietly flowing water. The triangular stem can grow to a width of 6 cm. Th e Egyptians used the stem of the pyrus plant to make sails, cloth, mat, cords and above all paper. It was adopted by the Greeks and was used extensively in the Roman Empire

It was used for the production of legal documents. Pliny the Elder, gave an account of the manufacture of paper from papyrus. The fibrous layers within the stem of the plant were removed and a number of these longitudinal strips were placed side by side and then crossed at right angles with another set of strips. The two layers formed a sheet, which was then dampened and pressed. Upon drying the glue-likesap of the plant acted as an adhesive and cemented the layers together. The sheet was finally hammered and dried in the sun. A number of these sheets were then joined together with paste to form a roll, with usually not more than 20 sheets to a roll. As time passed, other fibrous plants started replacing papyrus.

By the turn of 3rd Century A.D papyrus had already begun to be replaced by less expensive velum or parchment in Europe. Parchment is said to have been invited in the 2nd Century. B.C., The name apparently derived from the ancient Greek city of Pergamum. It is the processed skin of certain animals mainly sheep.

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

In 1452, Christopher Columbus ignored advice that the Earth was flat and tried to reach India by sailing west rather than east. He may have muddled his continents, but he didn't fall off the edge, the Earth's surface is of course curved. A similar question has been bothering cosmologist for nearly a century is the universe flat Researchers now announce that the answer is yes. Common sense tells us that flying through space in a straight tells us that flying through space in a straight line gets you further and further away from your starting point. But common sense and cosmology (the study of the universe) have little in common. Researchers have no difficulty accepting a universe in which space itself is curved. Fly for long enough in curved space and you could find yourself back where you started But the curvature of a universe does not just bend the brain, it also has a far more worrying conclusion.

A universe that contains enough mass to give it a positive curvature is doomed to a fiery end. It will gradually stop expanding and begin to shrink, ultimately imploding in a cataclysmic big crunch. A universe, with zero curvature, a flat universe, escapes this demise. Conditions in the young believed to have been rather like being rather like being inside the sun. Super-hot protons and electrons were densely packed, too excited to form any stable structures. Radiation was trapped, endlessly bouncing around, in this seething sea of particles. As this proto universe grew, it gradually cooled. When it was about 3,00,000 years old, things finally settled down enough for atoms to form.

The radiation that had been trapped finally escaped, an era known as decoupling. Since then, it has been racing through the cosmos largely keeping itself t itself. Over billions of years, it too has cooled with the expanding universe and what must originally have been energetic ultra-violet rays now reach us as feeble microwaves at just a few degrees above absolute zero. Known as the Cosmic Microwave Background Radiation or CMB this radiation hold important clues about the early universe, Tiny differences in density of the baby universe caused tiny differences in the temperature of the escaping radiation. These density fluctuations have grown into the clusters of galaxies we see to day

Because of the relative simplicity of the early universe, physicists believe they have a good understanding of its mechanisms. Armed with reliable measurements of the CMB they would be able to wind back the clock and calculate the state of the universe at decoupling and hence work out its density and curvature. Researchers finally got the date they needed just few months ago when an experiment known as Boomerang.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

The word virus is too familiar to us and everybody would like to avoid coming in contact with a virus. This is because viruses cause diseases not only in human beings but also in animals and plants. Virus is a Latin word meaning slimy liquid or poison. The list of diseases caused by viruses is a long one. Perhaps the most dreaded disease caused by viruses in human beings is Acquired Immune Deficiency Syndrome (AIDS). Some of the other diseases caused by viruses in human beings are infantile paralysis, dengue, hepatitis B, influenza, common cold herpes yellow fever and small pox. Viruses are parasites. They need a living cell host for reproduction. Some viruses in fact bacteria only and they are known as bacteria-eaters.

The biological nature of virus was first indicated by a Russian scientist Dimitry. Ivanovsky and a Dutch scientist Martinus W.Beijedrinck in the last decade of the nineteenth century. All viruses contain nucleic acid either DNA or RNA and protein . it may be noted that living cells contain both RNA and DNA but a virus has only one of the two. Based on the type of nucleic acid that a virus contains, it is classified as DNA or RNA virus. The size and shape of virus are determined by the amount and arrangement of nucleic acids and proteins. They vary in diameter from 20 nanometres to 400 nanometres (one nanometer is one billionth of a metre). Viruses are too small to be seen with naked eyes. With a few exceptions they cannot be seen even with ordinary or optical microscope.

The vaccinia virus can be visualized under a powerful optical microscope. Viruses come in various shapesrods, threads, spheroids, polyhedrons and tadpole-like structure. Some viruses come in combined shapes, for example, a virus may have a polyhedral head attached to a rod-like tail. The infective part of a virus, when it is outside the host ell is called the virion. It contains atleast one protein synthesized by a specific gene of the nucleic acid of the virus. All viruses have a protein coat called a capsid around the nucleic acid. Some virus like disease causing organisms which have only nucleic acid and no structural proteins are known as viriods. It protects the nucleic acid of the virus from digestion by enzymes called necklaces.

It help the virion to penetrate through the cell surface membrane or in some cases to inject the infectious nucleic acid into the interior of the host cell. It provided sites on its surface which recognize the receptors on the surface of the host cells for attaching the iron. Virus is host specific, that is. A virus may not harm one type of host but can severely damage another.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Land and Labour in modern economic parlance are the basic factors of creation on this planet. Between the two, labour is supreme, for it is he who makes conscious and deliberate efforts to unravel the laws and mysteries of land and makes use of them for his own development. Indeed, his own development is the be-all and end-all of his entire conscious effort. Looked at in this light, human development has been the objective of human Endeavour ever since Adam and Eve first appeared on this earth. Yes in the beginning, the thrust of human Endeavour was in the direction of spiritual development, but now it is in the direction of material development.

In the earlier years, it was primarily the responsibility of an individual to develop himself, but now it has become the responsibility of the State to arrange for all round development of human beings. This has put human beings in new light. The shift in emphasis from individual effort and spiritual development to State planning and material development has turned human into a factor of production an economic. Resource to be brought up developed and used for material development of the country as a whole. Population growth at an alarming rate comes in the way of these social objectives in a big way. Rapid growth of population, therefore, has rightly been cause of concern in jour country since the early fifty's. However, popular perception in this regard has undergone a sea change over the last couple of years.

In early fiftys, socio-economic implications of population growth were a matter of concern largely in the context of the argument that rapid population growth is an obstacle to development. But now it is increasingly recognized that the relationship between population growth and development is not that simple it is rather much more complex. In 1994, it has been forcefully argued and accepted that rapid population growth itself is in many ways the result of a lack of development. In course of time many other dimensions have been added to this relationship which was once viewed to be unidirectional. After the ICPD Conference population issue is placed in a much large context of sustainable development. Over the years, the concept of development little has undergone a change.

In the context of people-centered development, many dimensions like gender equity, women's empowerment, environmental degradation, uplift of the weaker sections and human resource development have assumed considerable significance. From this point of view, it is essential to look in to the implications of population.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

There are different forms of governments in the world like, monarchy, democracy and dictatorship. Every government should have a good administrative system or machinery to levy and collect taxes, maintain law and order, to administer justice and to implement various schemes, for effective administrative machinery was felt, in the ancient days also. There were excellent administrative set up even at the village level, in India in the ancient days. Similarly the Romans gad ab excellent administrative set up, similarly also the British, french and the Greeks. However the nature of recruitment and appointment to the various posts, were more on hereditary ;basis than on any other consideration, in those days

The duties of the Governments in the ancient days were limited to the extent of providing security to the people, and defending the country from foreign invasion. A small and selected administrative machinery was sufficient in those days but the science and technology have changed the entire set up of the society. The living conditions of the people have improved considerably. The provisions of hospitals, educational institution, accommodation, highways and transport etc. Have became the primary duty of any modern government. As a result, the administrative machinery has not only to be geared up to meet the demand but also transformed to suit the modern conditions.

The administrative machinery has therefore been divided into a number of departments like civil administration, police, education, health, engineering and judiciary etc. In the present days. The qualifications have been prescribed for every one of the posts each department along with the procedure for recruitment and appointment to those posts. The service commissions recruiting boards have been constituted in all the countries, to recruit the persons, for the various posts in the different departments. They have been accorded status free from governmental interference and security of tenure to the members forming the board with a view to ensure that the recruitment is made impartially without fear or favour. These bodies conduct examinations, interviews and select the suitable candidates to the various posts grades.

The modern administrative system has become much more important in these days of the decorative governments. The representatives elected by the people need not necessarily have neither administrative experience nor talent. The representative so elected , therefore have to depend mainly on the administrative machinery to discharge their duties, in their elected offices as ministers.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Edward Janner was a doctor in England. He became world-famous through his vaccination for Small Pox. Janner was born on 17th of May, 1749 in Berkely at Glon Cestershire, England. His father was a clergy. Janner was sent to a local school for elementary education when he showed keener interest in the study of medicine. Studying for medicine in those days was an ordeal: one had to get one-self trained under an eminent surgeon. Later, he had to study in a medical college for a period of 2 years. In a small village called Sedbury, near Bristol, Janner underwent training in surgery under an able surgeon. At the age of 21, he went to St. George hospital in London, where he had to study further and work. After his graduation in medicine, Janner went back to his native home to practice medicine.

During his training period a milkmaid approached her trainee surgeon to get herself treated for Cowpox. Cow Pox was a mild sickness common to prevail among mosfc of the milk-vendors. However Janner momentously thought of conducting investigations on Cow Pox. By this time, his training was getting over and Janner could take up the issue more vigorously. After many years of practice in his native home and occasional investigation into the cow pox that had afflicted his milk-maid. Janner trailed to achieve any type of success. He also started working on Small pox with the cases that had come to his clinic and at last it was possible for him “to succeed in getting it solved and treated.

He published his work in 1796 after having studied 27 cases. He noticed that in the people who had cow pox they did not contact small pox, after they were inoculated the fluids of cox pox. This led him to undertake a high risk of inoculating an eight year old Jimmy Phipps with cox pox virus which he extracted from the fingers of the milkmaid who had cow pox. The boy contacted cox pox. After seven weeks, he inoculated small pox virus into the same boy, which he extracted from the patient of small pox. But the boy did not now contact small pox. Now, he inoculated the same virus into another healthy person, he contacted small pox. The he proved beyond doubts that people suffering from cox pox would not contact small pox and they contacted cox pox from the cows.

In those days, people believed that one a person had small pox and recovered from it is he would never get small pox again. This was for truth in most of the cases. In other wards, people and had believed that cox pox and small pox are two different infections while he proved that people will not be affected in case they are inoculated with the attenuated viruses of cox pox.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Indian scientists deserve kudos for having developed an appropriate technology in order to meet the fuel requirements of the rural folk by recycling locally available organic resources. Rapid changes and modifications have taken place since 1950 when the floating dome model with counter weights was developed by the Indian Agricultural Research Institute. It provides centre guide system for smooth movement of gas holder and supply of gas at constant pressure/ This applied technology was looked upon as only of academic interest of in the early forties but has turned out to be of immense importance since the last decade due to spiraling prizes of petroleum products, chemical fertilizers and other sources of energy.

This technology gained importance also on account of the ever-rising demand for petroleum products which can only be met by enhanced imports leading to a further drain on our meagre foreign exchange resources. The recycling of indigenous resources has at least met a fraction of our demands and acted as a deterrent on this count. The gas plant is a boon to the Indian farmers. The two main products of the project from which material gains accrue are enriched compost manure and Methane gas made from local resources available in the villages. Whereas compost manure helps to meet the fertilizer requirements of the farmers in a more economical and efficient manner and thereby boost agricultural production, biogas is used for cooking and lighting purposes. It is also used in case of larger plants, as motive power for driving small engines. In fact the wide scale utilization of Gobar the most appropriate answer to solve three national inter-connected major problems with which the country is faced today food, fertilizer and fuel. The anaerobic decomposition of organic wastes leads to the production of methane, which can be readily used as an energy sources. The mixture of methane, carbon dioxide, hydrogen and nitrogen produced in this manner is called biogas. The complex organic molecules present in the organise wastes are first broken down to simpler compounds such as acetate, hydrogen oxygen, etc. By the action of a number of different micro organisms.

The simple compounds so produced are utilised by methogenic bacteria to produce methane. Methogenic bacteria can hydrogen and carbon dioxide for methane production. There are two major advantages of this type of energy source, which are the production of gas and the residual manure.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Indian planning has shifted its emphasis from self-sufficiency in food-grains to rural development through agricultural development. Though it continues to be the traditional sector, progress has become rapid on the agricultural front. A continuous flow of technology is coming out of the research stations. To get the best out of it, information about its implication on decision behaviour and policy should be made available to the farmers without time lag. Policies and programmes in various sectors and levels and their justification depend for effectiveness on dependable knowledge. Operational research in agriculture an rural development must observe conditions which are changing rapidly due to technological break-through the data on these are not available from the existing sources.

Information has to be updated frequently foe an effective information system for agricultural development. The centre for agricultural and rural development studies of the Tamil Nadu Agricultural university established a rural observatory in support of its developmental research with the specific objectives of carrying out the survey of resources, production. employment and organisational pattern. Tamil Nadu was divided into eight regions based on agro-economic Conditions. To have rural and urban contents, one municipality, one town panchayat and one village panchayat were selected in each of the above three regions. These centres formed the observation centres for the study.

The data were collected and village level information showed that irrespective of the size of the observation center, the distribution of population among male and female is almost; equal. The percentage of weaker section depends on the nature of the center. The prosperity of a region depends on industrial development also industrial were concentrated in the municipalities and not in rural areas. The availability of infrastructural facilities resulted in the location of industries in urban centres. The length of road and the number of vehicles operating is directly related to the degree of urbanisation. The bullock cart formed the major mode of transport in town and village panchayats. Regulated markets, co-operative marketing societies and even commission mandies are operating with urban base only. This shows the need for dispersal of purchase and sale centres to help the villagers.

The detailed household survey showed that while more than forty percent of the houses were thatched ones about sixty percent were tiled houses. As the degree of urbanisation increased, the percentage of living in owned houses decreased.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

The major objectives of nationalisation of commercial banks as set out by the prime minister may be summarised that removing the control over commercial banks by few large industrial houses. Providing adequate credit to the hitherto neglected sectors such as agriculture, small business, small scale and professional. To introduce professional management in commercial banking. To provide adequate training and reasonable service conditions for bank employees. The banks have really lived up to the expectations of parliament and the prime minister

The commercial banks have become powerful institutions contributing for agricultural and rural developmental and also the upliftment of weaker sections of the rural community. Some of the significant achievements are rapid branch expansion expansion, of rural credit, strengthening of the co-operative sector and support to village and rural industries. The commercial banks in India had organised themselves along the lines and patterns of British banks. They are more comfortable with trade and large industrial houses than with the agriculture sector and small industries. A number of changes has taken place in mral areas after commencement of the planning era. The concept of rural developmental has nether been concise consistent. Gandhiji's ideas are different from those of jawaharlal Nehru and they are again different from the ideas of indira gandhi.

These three dominant personalities, who played a significant role in the economic development of the country, have left their imprints. Tumultuous and far reaching changes have taken place after the nationalisation of commercial banks. Even before 1969, agriculture and allied activities were experiencing rapid growth under suggested five year plans. The national credit council pointed out a large credit gap in the rural economy. It has suggested measures to improve and monitor the flow of credit to the rural sector and also recommended a multi agency approach instead of depending on the co-operativecredit societies alone. While the banks prior to nationalisation were reluctant to enter rural areas and lend for rural acitvities in support of various governmental programmes.

Even during the British rule, the Government had recognised the importance of agriculture and developed the co-operative organisations to take care of agricultural credit. At that point of time and perhaps up to 1975,rural development was seen merely as agricultural development.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Classica dance in India adheres to a rigorous code, though some minor improvisations have been attempted and accepted in recent times. According to the Hindu mythology, when Lord Sive shook a hand drem, the world beatits first rhythm. And as he moved his body in tune with its beat, the universe came into being. The dancing Siva is known as Nataraja and all classical dancers invoke Nataraja as the symbol of cosmic energy. In India, the e\aesthetic theory is that dance, music and drama are inseparable, This principle was first enunciated in Bharatas treatise Natya Sastra, written in the 3rd century; B.C.Indian dance essentially tells a story poetically, with movements of hand mudras and foot and gesture of eye and row abhinaya, all this is supplemented and complemented by a set pattern of music.

A characteristic feature of the classical dance is the intricate footwork, tala which is emphasized by the jingling of ankle-bells by the dancer as well as the rhythm maintained by the drummer. There are four main schools of Indian traditional dance. By far the oldest of the classical styles is Bharata Natyam, which follows the ancient treatises more closely than any other style. With its roots in Tamilnadu, this dance, which has retained its purest form is usually performed solo and comprises movements of pure rhythm, reamatic rendering of a story or depiction of a mood Bharata Natyam was once part of therites of worship in temples and was performed by dancing girls attached to temple.

Kathakali frkom kerela is a spectacular and powerful dance-drama, in which the artists don an elaborate make-up and enact tales from the epics. Kathak began as a religious performance and under Mughal lpatronage in the 16th and 17th centuries evolved as a court-dance. The Manipuri style of Manipur in eastern India, revolves round the pranks of Krishna when he was young. Some of the other schools of Indian dance are the Kuchipudi of Andhra Pradesh, Odissii of Orissa, Mohini Attam of Kerala and the Yakshagana of Karnataka. For variety, colour and drichness of emotion, the Inian dance forms have pdractically no parallel in any other part of the world. In fact, Indian classical dances have traveled oout of the country to influehelp the art forms of neighbouring Sri Lanka, Indonesia, Thailand and even Japan and America.

India has also a variety of Tribal and Folk dances. To the tribals and village folk, dance seems to be the most natural medium of expression. Occasions like marriages. Births, festivals, fairs, harvests and hunts are all marked by dancing. The more popular of the folk dances are the Bhangra (Rajasthan), Ghumer and Gibba (Punjab), Garba (Gajarat), Kolattam (Tamilnadu and Karnataka) and Kaikottikali(Kerala).



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

During the period 1895 1905, many path breaking discoveries were made which not only ushered in revolutions in several disciplines of science but also changed our very understanding of some of the prevailing concepts in science. The discovery of electron by Joseph John Thomson in 1897 was one such discovery. In fact, the discovery of electron is one of the greatest discoveries of modern physics. The electron was the first of fundamental constituents of all matter to be proposed and in the last hundred years. It has withstood all the tests of elementarily.

The discovery of electron has not only revolutionized scientific thought but also our ways of life. Once electron was proposed as a fundamental constituent of matter, the scientists started building models of atomic structure. Atoms in their normal states are not electrically charged. So, as the electrons are negatively charged, it became obvious that the atoms also dairy a charge of positive electricity to counterbalance the negative charge. Gradually, the physicists built up an idea how these charges were arranged in an atom. Among these models, the Rutherford model had the most lasting influence. Rutherford discovered that the atom consisted of a heavy positively charged core surrounded by electrons. The existence of proton was recognized in 1914.

In 1931, neutron was discovered by James Chadwick and the number of elementary particles rose to three i.e. electron, proton and neutron. However, with the advent of particle accelerators, hundreds of so called elementary particles were discussed. To scientists, it was a real shock. They were not prepared to face so many elementary particles. From the very beginning of human civilization, the idea of fewer basic constituents of nature has fascinated man. To over come this complexity, a new model viz. quark model was proposed. According to this model, all the particles experiencing strong interactions are made of quarks was experimentally supported in 1969. Today the elementary particles and interaction between them are described the Standard Model.

According to this model, elementary particles are classified as leptons i.e. these particles interact with electro magnetic and gravitational fields but beyond that they interact only through weak interactions, hadrons and gauge bosons. Le[tons and hadrons interact by exchanging gauge Bosons

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Many illnesses are caused by irregular meals or from the habit of eating whatever catches the fancy or happens to come in handy. Such "carelessness" results in decreased efficiency too. You are what you eat. Hence, eating good means on time is very important. Scientific meal planning is knot too difficult. It may appear complicated to a beginner when he or she is told that a complete and balanced diet is essential to meet the needs of the individual. The needs of a person depend on his or her age, sex, body size type, temperament, nature of work, the climate and the it ate of health of his or her mind and body. The term daily diet means all the food a person eaters during the day. Die ; may refer to either food ordinarily eaten or that selected with reference to a particular state of health. A few simple rules combine all the requirements, and a little practice makes direct meal planning second nature.

Nutritionists define good meals as those which supply nutrition to meet body needs, protect the body against disease and are enjoyable to eat. With the knowledge of nutrition, one can easily choose food to fulfill the first two requirements; yet how much one enjoys one's food depends on one's taste and attitude in eating. You can train yourself to enjoy all essential foods. It is not clearly understood why some children seem to dislike certain foods. But experience shows that a persistent effort I overcoming most dislikes is rewarding.

Researchers have discovered that the custom of three meals a day is based on convenience and not on biological needs. Tests show that blood sugar concentration and muscular efficiency are lowest before breakfast and remain at this level until a meal is taken. After eating, blood sugar rises sharply and efficiency increases but the two fall again to a low level within two-and-a-half to four hours unless another meal is taken. From these facts, it appears that a high level of energy can be maintained by eating every two and a half to three hours throughout the day. Experiments on factory workers have proved this to be true. Today, many factories, offices and schools have incorporated in their schedules a "nutrition" or "snack" period mid-forenoon and mid-afternoon,

The bed time snack is a matter of individual preference. Top avoid interfering with sleep, it should either be omitted or be very light and contain light food such as milk or fruit. An over weight person and the elderly should avoid food before retiring. It is unfortunate that breakfast is so often slight. People who stay in bed. Late, rush with dressing and eat on the run.



WealthGO

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Rene Descartes was born on March 31, 1596, in France. His father was a member of the nobility. He lost his mother a year after his birth. He was raised by his maternal grandmother and by a nurse to whom he was devoted. In 1606, he entered a Jesuit College that was established for the education of the young nobility and completed in 1614 the eight-year course of studies. His studies left him with a felling of dissatisfaction at the extent of his own ignorance. But he left behind a mark of extreme brilliance. He spent the period from 1618 to 1626, divided between participation in many campaigns of the Thirty Years War in D8tch. He never married. He was doing military service without salary, Descartes spent most of his time in the study of mathematics. By the age of 22, he began to develop his analytical geometry under the title 'La Geometric' by which the mathematicians still affectionately refer to it.

It set forth the idea that a pair of numbers can determine a apposition on a surface; one number x as a distance measured horizontally, the other y as a distance measured vertically. In the concept of co-ordinates, he gave a method commented to be 'the greatest single step ever made in the progress of exact sciences'. He started, in 1619, work on his magnum opus Discourse on the method of Rightly Conducting the Reason, which stamped him immediately as one of the great thinkers of his age. He postulated his notion of the unity of all science which was a revolutionary concept which contradicted the notion of Aristotle.

The book contained three minor appendices on the behaviour of lenses meteors and geometry. A 106 page foot note outlined analytical geometry, which he did it is an endless wavy line, the exact graphic equivalent of the pulsating ebb and flow of electric current in a power cable, which has practical application in electrical engineering.

Descartes showed, for instance, that all quadratic equations, when graphed as connected points, become straight lines, circles, ellipses, parabolas or hyperbolas. Going beyond the quadratic, he established that each class of equations of higher degree brings into being a whole new tribe figure of eight, hearts, hummocks and petal shapes.

# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

Science affects the average man and woman in two ways already. He or she benefits by its applications, driving a motor car or omnibus instead of a horse-drawn vehicle, being treated for disease by a doctor or surgeon rather than a priest or a witch, and being killed with an automatic pistol or shell in place of a dagger or a battle-awe. It also affects his or her opinion. Almost everyone believes that the earth is round and the heavens nearly empty instead of solid. And we are beginning to believe in our animal ancestry and the possibility of vast improvements in human nature by biological methods. But science can do something far bigger for the human mind than the substitution of one set of beliefs for another, of inculcation of skepticism regarding accepted opinions. It was gradually spread among humanity as a whole the point of view that prevails among research workers and has enabled a few thousand men and a few dozen women to create the science on which modern civilization rests.

For if we are to control our own and one another's actions as we are learning to control nature, the scientific point of view must come out of the laboratory and be applied to the events of daily life. It is foolish to think that the outlook which has already revolutionized industry, agriculture, war and medicine will prove useless when applied to the family, the nation or the human race. Unfortunately, the growing realization of this fact is opening the door to innumerable false prophets who are advertising their own pet theories in sociology as scientific

Science is continually telling us through their mouths that we are doomed unless we give up smocking, adopt or abolish birth control and so forth. Now it is not my object to support any scientific theory, but merely the scientific standpoint. What are the characteristics of that standpoint? In the first place, it attempts to be truthful and therefore impartial. And it carries impartiality a great deal further than does the legal point of view. A good scientist will be impartial between Mr. Smith a tapeworm and the solar system. He will leave behind him his natural revulsion of the tapeworm, which would lead him to throw it away instead of studying it as carefully as a statue or a symphony and his awe for the solar system, which led his predecessors either to worship its constituents or at least to regard them as inscrutable servants of the Almighty, to exalted for human comprehension.

Such an attitude leads the scientist to a curious mixture of pride and humility. The solar system turns out to be a group of bodies rather small in comparison with many of their neighbors and executing the movements according to simple and easily intelligible laws.



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# SPEED PRACTICE

**Type the following in double line spacing with a margin of ten degrees:-**

The brain is the essential organ of mind. As the chief focus of the nervous system the brain, with its vast number of cells closely inter-linked, is related to all the tissues and organs of the body by means of nerves. The reception by the brain cells of messages from the various sense organs arouses what is called sensation and consciousness, which from a physiological point of view, is simply awareness of sensation. All mind functioning is therefore primarily dependent on efficient sense organs and healthy nerves to transmit impulses when these sense organs are stimulated.

In turn, consciousness depends upon the integrity of the brain cells and should these cells be injured, as in concussion from a blow or damaged by the poisons of alcohol or disease, then consciousness may be reduced or completely suspended. All forms of mental activity use up energy in then ever cells and this need is met with by an increased flow of blood containing nutriment to the brain triples between birth and adulthood- reaching a final weight of about 1 kilogram fro men and 1.3 kilogram for women. By the age of 50 though, it shrinks slightly, losing about 30 grams. There is no correlation between brain size and intelligence. A man's brain is usually slightly larger than a women's but in both sexes the brain makes up a similar proportion of total body weight. Two writers hold opposite records for brain size. The writers hold opposite records for brain size. The brain of the Russian author Ivan Turgenev weighed 2.012 kilogram.

The brain of the French writer Anatole France (1844-1924) weighed little more than half that figure, 1.017 kilogram. The grain is divided into two hemispheres, each a mirror image of the other. The right hemisphere controls the muscles of are receives information from the left half of body. The left hemisphere monitors are controls the right half of the body. In right handed people, the majority, the left side the brain is concerned with such skills reading, writing and talking. The right hemisphere deals with artistic activity and the workings of the imagination. In left handed people the functions the two hemispheres many be reversed. The average brain contains about ten thousand million neurons-microscopic nerve cells.

Each cell has a slender projection call an axon which links if to other parts of the central nervous system. Some axons stretch the length of the spinal cord making them more than a meter (23.3 ft) long and the longest cells in the body. Each neuron is also linked to neighboring neurons by upto 50,000 connections knows as dendrites.



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