

UNIT - IV FLYING IN COLOURS

Listening and Classifying information - Group discussion - Reading and identifying the topic sentence - Writing Project Proposal- Recommendations and Instructions - Manual Writing - Editing (Spelling, Grammar, Punctuation) - Idioms & Phrases - Rearranging the Jumbled sentences.

4.1. Reading

Activity: Reading and identifying the topic sentence

A topic sentence is a sentence that expresses the main idea of a paragraph. It is actually a general statement that covers all or most of the content in the paragraph. Identifying the topic sentence in a paragraph is one of the most important reading skills. Not all paragraphs begin with topic sentences.



In some paragraphs, the topic sentence appears in the middle or at the end. In others, the topic sentence is implied or absent altogether. Subsequent sentences will relate to the main idea of the paragraph by providing support and evidence that backs up the topic sentence. Thus, a reader is told what will be argued through the topic sentence, while the main idea is constructed through the supporting details offered in the paragraph.

Three strategies in reading:

- *Skimming* - Reading a passage to get the gist of the passage.
- *Scanning* - Reading to get specific information about the passage.
- *Detailed Reading* - Reading to find answers for the questions given

Ex: 4.1.1 Read the following paragraph and identify the topic sentence:

A considerable advantage when landing a commercial aircraft is that most large planes today have automatic landing capability, which relies on a combination of onboard electronics and signals from airport runway lights and transmitters.



The system is meant to help pilots in times of low visibility and can be used only under certain wind conditions. In 2009, a Turkish Airlines Boeing 737 crashed during an auto-landing at Amsterdam's Schiphol Airport, killing nine and injuring one hundred and twenty people, due to altimeter malfunction compounded by subsequent pilot error. Most large air planes can land themselves successfully, with minimal input from passengers or the remaining crew. General aviation airplanes typically aren't equipped for auto landing, but crashes due to a conked-out pilot are rare.

(Ref:<http://www.straightdope.com/columns/read/3090/has-a-passenger-ever-landed-a-plane-after-the-pilot-was-incapacitated>)

Ex: 4.1.2 Identify the topic sentence for the following passage.



Transportation by large and long range aircraft, the flight of space shuttles, and the realization of the space station are some examples of recent developments in aerospace engineering.

These developments highlighted cutting edge technologies such as lightweight high strength materials, heat resistant structures, miniaturization, high performance propulsion systems, reduction of air drag, large scale numerical simulation, and the construction of large structures in space. Aircraft for transportation and artificial satellites for communication and weather forecast are now commonly related to our daily lives.

4.2. Language Focus: Idioms and Phrases

An idiom is a phrase, or a combination of words, that has developed a figurative meaning through frequency of use. Idioms are a staple in many different languages, and are often shared across languages through numerous translations. They can be useful and even fun to use, but are also bound to confuse any new speaker of a language who isn't familiar with the phrase's cultural relevance.

Activity: Identifying Idioms and Phrases***Few Examples*****A hot potato**

A current issue which many people are talking about

A penny for your thoughts

A way of asking what someone is thinking

Actions speak louder than words

People can be judged by what they do than what they say.

A drop in the ocean

A very small part of something much bigger

Back to the drawing board

When an attempt fails and it's time to start all over.

Ball is in your court

It is up to you to make the next decision or step

Barking up the wrong tree

Looking in the wrong place, accusing the wrong person

Beat around the bush

Avoiding the main topic, not speaking directly about the issue

Blessing in disguise

Something good that isn't recognized at first

Costs an arm and a leg

Really expensive

Cry over spilt milk

When you complain about a loss from the past

Don't put all your eggs in one basket

Do not put all your resources in one possibility.

Down in the dumps

Very Sad

Every cloud has a silver lining

Be optimistic, even difficult times will lead to better days.

Found my feet

To become comfortable doing something

Go the extra mile

Do much more than is required

Hit the nail on the head

Do or say something exactly right

Kill two birds with one stone

To accomplish two different things at the same time

Let the cat out of the bag

To share information that was previously concealed

Miss the boat

Miss an opportunity.

On the ball

When someone understands the situation well

Once in a blue moon

Happens very rarely

Over the moon

To be extremely pleased or happy

Picture paints a thousand words

A visual presentation is far more descriptive than words.

Piece of cake

A job, task or other activity that is easy or simple.

Run of the mill

Average, ordinary

Sit on the fence

This is used when someone does not want to choose or make a decision.

Exercises:**4.2.1 Fill up the blanks with suitable Idioms and Phrases from the above given list**

1. Those shoes must have -----.
2. Apple phones are very ----- these days.
3. I was really ----- after my dog died.
4. My parents are quite traditional and -----.
5. I decided to ----- and move to abroad to perfect my English.
6. Just learning idioms is ----- when it comes to preparing for the speaking test.
7. I don't think her new handbag is -----
8. I was ----- when I passed my speaking test

4.2.2 Choose the right options from the list given above to complete the meaning of the sentence

1. Don't ----- . You should apply to different universities.
2. People have great business ideas but do nothing about them. -----, just do it.

3. Getting a band 6 in the speaking test will be -----
4. A student will get a score 9 in the IELTS writing test -----
5. Murders and capital punishment are ----- in my country at the moment.
6. I sent my application in late and I think I -----.
7. The new i-Phone is really the ----- at the moment.
8. Moving to a new city was difficult as first, but I soon -----

4.3. Language Focus: Abbreviations/Acronyms

An abbreviation is a shortened form of a word or a phrase.

Examples:

MD - Managing Director
BPO - Business Process Outsourcing
ATM - Automated Teller Machine

An acronym is an abbreviation that forms a word.

Examples:

AIR - All India Radio
NOW - National Organization for Women
COBOL- Common Business Oriented Language

Few abbreviations:

AATT Advanced Aviation Transportation Technology
ACAS Airborne Collision and Avoidance System
ACMS Aircraft Condition Monitoring System
ADF Automatic Direction Finder
AFCS Automatic Flight Control System
ALPA Air Line Pilots Association
AMSS Aeronautical Mobile Satellite Service
AOCS Attitude and Orbit Control System

ARTS Automated Radar Terminal System
ASR Airport Surveillance Radar
ATA Air Transport Association
ATIS Automatic Terminal Information Service

Few acronyms:

CAM Content Addressable Memory
CAMP Computerized Aircraft Maintenance Program
CAS Crew Alerting System
DADS Digital Air Data System
DITS Digital Information Transfer System
HAPS Hydrostatic Absolute Pressure Sensor
NATA National Air Transportation Association
RAT Ram Air Turbine
SCAT Speed Command of Attitude and Thrust
STAR Standard Terminal Arrival Route
WOW Weight On Wheels
AIM Aeronautical Information Manual

4.3.1 Write the expansions for the following abbreviations which are related to Aviation technology.

IATA, FLC, FMA, FMGS, LSA, STAR, SOP, MCP, NASA, ATC, ECAM, AMSL, AOM, ATN, CAR, FANS, LOFT.

4.4. Language Focus: Editing

Activity: Editing & Mechanics of writing.

Editing is a process of correcting the errors in a passage with respect to spelling, grammar and punctuation marks. For this, students must know the agreement between the subject and the verb in a sentence.

Points to be considered:

1. Check your spelling.
2. Verify your grammar.
3. Read the paragraph again.
4. Make sure each sentence has a subject.
5. See if the subjects and verbs agree with each other.
6. Check the verbs and tense forms of each sentence.
7. Make sure that each sentence makes sense.

Style and Organization

1. Make sure the paragraph has a topic sentence.
2. Make sure the supporting sentences focus on the main idea.
3. Be confident that you have a closing sentence.
4. Check that all the sentences focus on the main idea.
5. Observe whether the paragraph is interesting.

4.4.1. Correct the grammatical errors in the following passage:

Changing the shape of an aircraft can be done at a microscopic as well as a macroscopic level. On most passenger jets, the wings and fuselage generates about 90% and 10% of the lift respectively.



Working with funding from NASA, Aerospace engineers at the Massachusetts Institute of Technology (MIT) has designed an aeroplane with a body so fat, and wings so narrow, that the

fuselage provide about a fifth of the aircraft's lift. Its cross-section resembles that of two partially joined bubbles. The "Double Bubble", as it is called, looks awkward, but the team estimate that its design would reduce fuel consumption by about 70%. This was only partly because it would fly about 10% slower than today's airliners.

4.4.2. Correct the spelling mistakes in the following paragraph.

Aircraft engineers have for years sought to replace metal components with lightweight plastics reinforced with carbon fibers. Such materials, known as composites, are generally 20-40% lighter according to ATK, an aerospace company based in Utah that makes them for aircraft manufacturers. Composites account for as much as 15% of today's airliners, but some next-generation aircraft will be more composite than metal, including the Boeing 787 and Airbus A350. (Ref: <http://www.economist.com/node/21527035>)

4.4.3. Punctuate the following passage:

This is the first time we have flight tested a hydrocarbon-fueled scramjet accelerating from Mach 6 to Mach 8 said Nasa Hypersonics Project Scientist Ken Rock, based at Nasa's Langley research center in Hampton, Va. At Mach 6 the inlet compression and combustion process was designed to reduce the flow to below Mach 1 -- subsonic combustion. but at Mach 8 flight the flow remained greater than Mach 1 or supersonic throughout the engine. So this test will give us unique scientific data about scramjets transitioning from subsonic to super-sonic combustion - something we can't simulate in wind tunnels. (Ref: <http://www.nasa.gov/topics/aeronautics/features/hifire.html>)

4.4.4. Edit the following passage on “Sat Phones”

For those flying to remote locations where typical radio, telephone and internet communication may not exist, satellite phones is essential. Popular with phones the military and NASA, these phones are now being found in cockpits of commercial jets and general aviation aircraft. Sat phones are mobile that use satellites insted of sell towers. Some have internet access and even text massaging. In remote locations, they are sometimes the only method of communication. Recently long-haul operators has been eying satellite phones as a backup method of communication. And as recently as january 2012 cirrus announced that it was instaling a new communication system in all of its new aircraft that inkludes a sat phone for pilots and passengers. The phones can be used in flight, and a pilot or passenger can called and listen directly through his or her headset.

4.4.5. Directions: The following sentences have errors in grammar, structure and punctuation. Correct the sentences.

Microlite Aircrafts has typically two seats, less than half a tone in weight, can travel with speeds up to 120-150 kms. per hour and run on automotive fuel (car petrol). They are ideal for local sight seeing surveillance, travelling of one person for distances of upto 250 kms. etc.



Ministres and bureaucrats use this for quick transportation to adjoining districts. The operations of these air-crafts ensure the utilization of airports/airstrips from which they are based. The local DC can use the aircraft for aerial surveillance of his jurisdiction for monitoring encroachments, aerial assessment on natural calamities etc. Tourist have the facility of breathtaking aerial views of the local flora fauna and sights. cost of these aircraft ranges from 20.00 lakhs to 35.00 lakhs which is equal to a luxury car.

4.5. Writing

Activity: Writing a Project Proposal

A proposal is a request for financial assistance to implement a project. The proposal outlines the plan of the implementing organization about the project, giving extensive information about the intention, for implementing it, the ways to manage it and the results to be delivered from it .The following guidelines are designed to prepare a proposal. The proposal should



- Provide a logical presentation of a research idea
- Illustrate the significance of the idea
- Show the idea's relationship to past actions
- Articulate the activities for the proposed project

Designing a project is a process consisting of two elements, which are equally important and thus essential in forming a project proposal

- Project planning (formulation of project elements)
- Proposal writing (converting the plan into a project document)

The project proposal should be a detailed and directed manifestation of the project design. It presents the project to the outside world, in a format that is immediately recognized and accepted.

Advantages of Project Proposal

- A proposal is an essential marketing document that helps cultivate an initial professional relationship between an organization and a donor over a project to be implemented
- A proposal facilitates appropriate words for the conception of an idea
- The proposal has a framework that establishes ideas formally for a clear understanding of the project for the donor
- Successful proposals mean financial aid for the organization to grow for the replication of project and ideas.

General Format

- Title page that includes all particulars (From, To, date, Title, etc)
- The project overview section is a short one and it usually extends for a single paragraph, giving an over view of the said businesses.
- In some cases, a brief summary of the background is also put into the proposal.
- The actual, specific details of the proposed project extends for a couple of pages and also cites references from the appendices.
- Evaluation of the plan, or the result that is expected is elaborated next.

- The last section is of course, the appendices of the plan, in which the proofs and citations are given. This includes the quotations, reports and observations, of the proposing party.

Format of the Project Proposal:

I. Title Page: It should include the following:

Title of the proposed topic, purpose, name of the dept, name of the supervisor and the student.

II. Contents of the Proposal

To:

From:

Date:

Subject:



Proposed Research Topic: *Provide a brief description or a descriptive title or a research question*

Purpose: *Expand on the topic/question by describing what you hope to accomplish, and the desired outcomes (especially the practical or theoretical benefits to be gained]*

Background: *Describe the context of the proposed research, making it clear how this context will allow you to accomplish your stated purposes.*

Scope: *Describe such things as the time you will invest, when the field work will take place, the number of participants, and the number of interviews/ observations you will conduct/ make.*

Theoretical framework: *Briefly identify and explain the theoretical frame-work you will use to guide your investigation, how it fits your purpose and its implications for the research methods*

Method: *Describe in detail the steps you will take in attempting to answer your research question/ can even give in a flow chart.*

Timetable:

*Prepare proposal by
Complete literature review by
Install Instruments by
Complete fieldwork by
Complete analysis by
Give presentation on
Complete final report by*



Limitations: *Describe conditions beyond your control that place restrictions on what you can do and the conclusions you may be able to draw]*

Delimitations:

References:

4.5.1. Sample Project Proposal:

Write a proposal for the project on introducing Advanced Technology for Aircraft Safety. Your proposal should include the title page and other particulars in the format. It should not exceed three pages.

Title Page

**Project Proposal on
Introducing Advanced Technology for Aircraft Safety**

In part of the fulfillment of Degree

Submitted to
**Department of Aeronautical Engineering
Sathyabama University**

Research Supervisor
Dr. Augustine

Submitted by
Albina
I year Aeronautical Engineering

On
15th September 2016

To: Dr. Augustine
From: Albina, First year Aero
Date: 15th September 2016
Subject: Project Proposal

Proposed Research Topic: Introducing Advanced Technology for Aircraft Safety.

Purpose:

A survey of the aircraft accidents will be made and the data will be compared, with respect to the reasons such as lack of pilot comments, lack of attention, navigational requirements, and speed changes. This project proposal is directed to explore the emerging safety issues of advanced technology aircraft and to suggest training in investigation techniques required to update with new technology.

Background:

The study will be conducted by a team in collaboration with The Bureau of Air Safety Investigation which proposes this research project by recognizing the special safety issues that can be applied to advanced technology aircraft. A team of six students will conduct a survey of accident rates which have been declining with each successive technological advance over the last thirty years. Observation will be made with the assistance of The Bureau of Air Safety Investigation. However, new technology has also resulted in a range of new human factors and operational difficulties. The work of pilots and other airline personnel is being changed by the introduction of new technology.

Scope:

- To focus safety issues pertinent to Advanced Technology Aircraft
- To give reasons for the implementation of new technology aircrafts.
- To familiarize the staff with issues related to advanced technology aircraft system.

Theoretical framework:

The instruments provided by the University for the study will be used besides seeking the help of The Bureau of Air Safety Investigation. The focus is on generating data at key points specified above and to compare with reasons when there were less accidents. Statistical tools will be used to analyze and interpret the data. Interviewing the crew, pilots, control authorities also will validate the study.

Method:

The safety issues associated with advanced technology aircraft will be investigated by conducting a literature review, since it provides an overview of the safety concerns of overseas authorities. The study is focused at

- Conducting a literature review on advanced technology aircrafts.
- Choosing the right technology and installing them at suitable aircrafts agreed upon with the Department of Aviation Technology.
- Meeting team members regularly to clarify and provide insight into observations made.
- Undertaking an analysis of the field notes and interview notes, using statistical tools.
- Writing a project report that combines an understanding of the relevant study and previous research with the results of study.

Timetable:

<i>Prepare proposal by</i>	<i>15th September</i>
<i>Complete literature review by</i>	<i>25th September</i>
<i>Install Instruments by</i>	<i>1st October</i>
<i>Complete fieldwork by</i>	<i>31st October</i>

Complete analysis by *10th November*
Give presentation on *11th November*
Complete final report by *15th November*

Limitations:

Though advanced technologies are encouraged and implemented, there are few limitations. The study is limited to the errors made in the cockpit area such as data entry errors, monitoring failures and mode selection errors. Besides, the study is focused on violation of traffic rules that occur frequently, since the crew members sometimes fail to follow the ATC instructions in the utilization of advanced technologies.

Delimitations:

The project can be perfectly successful only if the study is made with the help of The Bureau of Air Safety Investigation, The centre for Aviation Technology, Air Accident Investigation Bureau and Aviation Safety Services. Moreover, the time constraint of the semester limits the duration of the study.

References:

www.atsb.gov.au/aviation/aviation-safety-investigations-and-reports.aspx

Assignment:

4.5.2 Make a survey of the Condition of roads (ECR/ Sardar Vallabai Patel Road/ Vendors occupied/ pot holes/ speeding vehicles/construction of roads and bridges) to find out the reasons for increasing number of accidents. Your proposal should clearly mention the purpose of the study, background, scope, method (theoretical/ experimental/ empirical/ survey etc), scope, limitations and delimitations of the study.

4.6 JUMBLED SENTENCES

A set of five to eight sentences can be given in jumbled order. The given sentences should be arranged properly to form a meaningful paragraph. Rearrange the sentences or words so that they logically make sense.

- Help the students relate events in a logical manner
- Sequence the sentences based on English usage skills.
- *How to rearrange?..* Identify the
- Theme of the paragraph that might be created on un-jumbling the sentences.
- Initiating sentence, which starts the paragraph
- Links have to be found between two sentences. Once a link of this type is created, it becomes easy to eliminate irrelevant choices.

How to save time while solving these types?

It is very important to read selectively and search for transition words or other keywords. The best way is to establish a link between any two (or more) statements. Once a link is found, you get to know which statements will come together.

Guidelines

- Avoid reading the sentences closely; that is not required and is a waste of time. Inspect the choices; if each of the choices begins with different letters, identifying the sentence to begin the sequence leads to the correct answer.

- In choices that are closely related, identify a mandatory pair of sentences (two sentences that should form a sequence).
- Look out for quick clues such as pronouns, conjunctions, discourse markers etc. in the beginning of sentences to help you establish a sequence.
- In six sentences variety, work backward from sentence 6 if there is no obvious clue to work from sentence 1; many a time we overlook the hints that may be valuable.

Exercises:

4.6.1. Read the following and rearrange the following jumbled sentences on Electronic Flight Bags in the correct order.

- Pilots can also receive push notifications from their operations department, check email and even text message.
- EFBs are every pilot's dream. With 3G and Wi-Fi readily available, pilots can update company publications and check the schedule as often as they'd like.
- Flight manuals are heavy, costly and time consuming to keep updated.
- For instance, EFBs consolidate the pounds of baggage into a simple hand-held device.
- Presently, EFBs are currently making their way into aircraft all over the world in the form of iPads and other devices.
- In addition to the large amount of data, that can be held in EFBs.
- Moreover, they can also provide GPS moving map displays and video surveillance from the flight attendant stations and galleys to the cockpit.

4.6.2 Rearrange the following Jumbled sentences in the correct order.

- The aircraft then moves under its own power along the taxiways.
- At some airports, certain aircrafts are permitted to power back.
- This first phase of flight, after all doors have been secured, involves the movement of the aircraft away from the terminal jetway and along taxiways to a runway.
- This means that following engine starts at the gate, the thrust reversers are used to literally back the aircraft away from the gate.
- Push-back occurs only when the pilot has clearance to do so from Air Traffic Control, which monitors all aircraft movements during taxi.
- Since aircrafts are designed primarily for flight, and are not ground vehicles, they are taxied at very low speeds.
- A motorized vehicle called a tug is sometimes used to push the aircraft back from its gate.

4.6.3 Rearrange the following Jumbled sentences in the correct order.

- When preparations have been made for take-off, the pilot contacts the control tower and asks for permission to take off.
- Before take-off, there is an inspection to make sure there are no problems with the plane.
- Now the plane goes out to the runway, and we're ready to take off! The cargo is carried out to the plane by its own trailer, and is loaded by a lift for cargo.

- Because planes cannot move backwards, sometimes a special tow car pulls the plane into place.
- Specially trained mechanics go into the cockpit and do a careful inspection.
- When the inspection is finished passengers get on the plane and cargo is loaded.

4.7 MANUAL PREPARATION

Writing a manual on an important function at work can demonstrate your abilities to your superiors. It demonstrates your ability to complete a project on your own.

What is a Manual?

A **user guide** or **user's guide** is commonly known as a **manual**. It is a technical communication document intended to give assistance to people using a particular system.

- It is usually written by technical writers, programmers, product or project managers, or other technical staff.
- User guides are most commonly provided with electronic goods, computer hardware and software.

Contents of a User Manual

The sections of a user manual often include:

- A cover page
- A title page and copyright page
- A preface, containing details of related documents and information on how to navigate the user guide
- A contents page
- A guide on how to do or use something or the main functions of the system

- A troubleshooting section detailing possible errors or problems that may occur, along with how to fix them
- A FAQ (Frequently Asked Questions)
- Where to find further help, and contact details
- A glossary and, for larger documents, an index

User manuals accompany computers and other electronic devices such as televisions, stereos, telephone systems, and MP3 players, as well as household appliances and lawn and garden equipment. Good user manuals educate users about the product's features while teaching them how to use those features effectively and are laid out to be easily read and referred to. When creating effective content for and designing the layout of a user manual the following rules are to be followed. (Ref: en.wikipedia.org/wiki/User_guide)

How to design individual pages in the user manual

In addition to effective instructions, the use of colour, the text and fonts used, and the icons and graphics can either make for an easy experience or can derail the user. Here are some suggestions to be considered.

- Ensure that font size is adequate (use at least 12 point font).
- Ensure high text-to-background contrast (black on white is best).
- Use san-serif fonts.
- Avoid using multiple font styles.
- Font weight can be used sparingly to denote importance.
- Use colour coding consistently.
- Provide plenty of white space between sections and around images and paragraphs.

- Provide a section (or margins) for the users to make their own notes.
- Use consistent layout from page to page.

4.7.1 Prepare an user manual for AQUA FRESH Reverse Osmosis Water Purification System in the proper format.

TITLE PAGE

<p>USER MANUAL for</p> <p>AQUA FRESH</p> <p>Reverse Osmosis Water Purification System</p> <p>Global Ensoft Pvt. Ltd Chennai-92</p>

Product Description

Aqua Fresh RO system removes almost all hardness, toxic heavy metals and other chemical contaminants and makes the water totally safe to drink and cook. Aqua Fresh uses a unique purification process that revives the taste of water lost due to heavy metal contaminants like Arsenic, Lead and Mercury. Aqua Fresh RO system is the result of years of research that is designed to provide not only microbiologically safe water but also chemically potable water. Its unique purification process also reduces pesticides in the scaling on vessels that ensure the purest water ever.

User Friendly Features

- Aqua Fresh RO system has an eight liter storage capacity
- Compact transparent storage tank to see the level of Purified water
- Easily replaceable filter cartridges
- The weight sensor control to avoid overflow of water
- Closed Storage Tank that protects the water from dust and other foreign objects.
- Auto Reject Water avoids water wastage by shutting off the reject water automatically
- Inbuilt auto flush system to clean RO membrane thus ensuring longer life.

Important Safety Instructions**DO'S**

- Change filters regularly for clean water
- Drain the water in the tank if it hasn't been used for over two days
- Open the top cover and push up the lever to drain the tank
- Discard the first filling of the water from storage tank after cleaning
- Wipe the inside of the tank with a soft cloth

DONT'S

- Do not place any heavy or sharp object on the top of the purifier as it might damage the product
- Do not pull or push the water dispensing lever with excessive force.
- Do not tilt the purifier more than 10 degree.

- Do not by mistake interchange the inlet and outlet of the filter.
- Do not install the purifier where water or rain could leak into it(Outdoor etc)

Troubleshooting (Problems& Solutions)

1. Why does water taste bad, is it time to change filters?

Initially clean the storage tank and dispose of water. If the purified water still tastes bad call our service department to change filters.

2. Why too much or too little water being purified?

Either the Filters may be clogged or damaged. It depends on the tap water value that might require change or rectification.

3. How to clean the pre-filter?

Close the tap water valve, hold the top of the filter, push downward and separate it from the cold water pipe. It is always advisable to clean the pre-filter by back flushing.

4. How to backflush the pre-filter?

Connect the tube from the tap to the outlet nozzle. Turn the tap on to maximum pressure and allow the water flow into the sink for about 10 minutes with that it is ready to use the purifier once again

5. What's the quickest way to stop water leakage?

After checking the inside of the product, close the tap water valve, unplug the power cord and call our service department if trouble persists.

Service Advantage

- The service contract entitles some attractive benefits:
- One year warranty for the product with an option of entering into an annual Maintenance service
- Routine maintenance service every four months during the term

- Facility of having water tested at the company's fully equipped state-of –the art testing centre
- All parts will be replaced except for the glassware's, if damaged during the contract period
- A vast network of service centers manned by experienced service representatives

Contact Details

Reverse Osmosis Water Purification System

Global Ensoft Pvt. Ltd

Chennai-92

Ph:044-42072772

Email: globalensoft@gmail.com

4.7.2. The following sentences are a combination of instructions and recommendations for preparing a User Manual. Arrange them properly in the table.

- Include the appropriate cover and title pages.
- Add references to related documents in the preface.
- Include a table of contents if the manual exceeds ten pages
- You have to put instructions/procedures and reference materials in the body of the manual
- Procedures should be written in a consistent structure throughout the instruction section of the manual.
- Begin with an overview of the task, then describe what the user has to do.
- Number the steps and begin with action verbs, as the steps in each section of this article are written.
- Reference materials should include lists of options, troubleshooting tips and frequently asked questions.

- Glossaries and indexes ought to be added at the end of the manual.
- Although a list of frequently used terms can appear at the front.
- The index need to be omitted if the manual runs less than 20 pages.
- Use graphic images as needed to support the text
- Choose a few readable fonts
- Consider the type of binding for the user manual
- It is necessary to define the user is.
- Write to the user's needs in a way the user can understand.
- You must explain the problem the user is trying to solve, and then present the solution to it.

S.NO	INSTRUCTIONS	RECOMMENDATIONS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

4.7.3 Assignment:

Prepare a manual of 4 pages for the passengers of aircraft focusing the instructions and recommendations to be followed by them.

4.8 Writing

Activity: Giving instructions

Instructions are important in technical writing. Here, the sentences start with the verb in

present tense and the negatives can be expressed using *don't*, *avoid*, *stop*, *keep away*, *stay away* etc.

Sample instructions:

Safety demonstrations are required by the basic international air safety standards set by the International Civil Aviation Organization and National Civil Aviation authorities. A safety demonstration of instructions typically covers all these aspects.



4.8.1. The following are the set of safety instructions to be followed by an aircraft passenger. Underline the verbs.

- Study the passenger safety card both before take-off and landing, so that the information is fresh in your mind.
- Listen closely when the flight attendant gives the safety briefing.
- Use the seat belt.



- Know where the emergency exits are, both in front of you and behind you.
- Feel under the seat until your hand locates the floatation device
- Be aware of the use of the oxygen mask.

- Observe the brace position sometimes called the safety position to be used during an emergency landing
- Learn the location and use of the life vests, life rafts and flotation devices.
- Use laptops and other electronics only when the aircraft is at cruising altitude (the aircraft exceeds 10,000 feet in altitude)
- Don't use mobile phones
- Avoid smoking
- Review the safety information card prior to takeoff.

4.8.2. Below is a general list of items that may or may not be permitted on a plane. Write a set of instructions to the air bus passengers by using the clues given.

- Alcoholic beverages are avoided
- Continuous positive airway pressure (CPAP) device is permitted on a plane except the distilled water.
- Dangerous goods such as acids or compressed gases are banned.
- Devices designed to stun (e.g. teasers, stunners or tear gas) are restricted.
- Dry ice is allowed (2.5 kg per person) to pack perishables
- Explosive or incendiary substances that cause serious injury or threaten the safety of the aircraft are prohibited.
- Guns and firearms designed to cause serious injury are restricted.



- Disposable lighters, a maximum of one lighter per person is permitted.
- Liquids, aerosols or gels are accepted in 100ml bottles.
- A maximum of one box of safety matches per person is permitted.
- Passengers may bring one small medical or clinical thermometer, which contains mercury, for personal use, when in its protective case.
- Objects with sharp points or sharp edges are limited.
- Personal toiletries are permitted in carry-on baggage.
- Portable electronic devices such as cameras, gaming consoles, cellular or mobile phones, laptop computers and camcorders are permitted.
- Service animals are permitted on aircraft with thirty or more passenger seats.
- With the approval of the airline, passengers may bring wheelchairs or other battery-powered mobility aids



Activity: Writing Recommendations

The recommendations are suggestions about what should be done. Your reputation as a professional can be influenced by the quality of your recommendations. Therefore, the quality of the content must be good. The notes below will help you to produce recommendations with good content and language.

Some of the **Key words** to be used while writing recommendations are

Should, should be, must, must be, can, can be, have to, have to be, ought to, ought to be, need to, need to be, it is necessary, it is recommended, it is suggested, it is directed

Sample Recommendations:

4.8.3 A set of recommendations to prevent aircraft accidents is given below. Underline the recommendation keywords.

- The New Air Navigation System should be improved
- Air traffic services must be enhanced.
- Airspace capacity can be expanded and the effective use of airspace needs to be promoted.
- The Government has to implement advanced disaster control measures for airports.
- Aviation safety facilities ought to be strengthened in all the aspects.
- It is necessary to improve flight inspections and the authorities should monitor aeronautical ground light and radio facilities frequently.

4.8.4 Turbulence is sometimes unavoidable during the journey and you may experience the familiar nausea that comes with motion sickness. There are some simple instructions you could follow to fight the feeling. Convert them into recommendations using the keywords.

- Avoid a late evening with spicy food and alcoholic beverages the previous day.
- Ask for a seat in middle section of the aircraft.
- Do not consume alcoholic beverages on the day of the flight.
- Have a light dry snack like biscuits or toast, 2 hours prior to the flight and take a light meal onboard.
- Avoid alcohol but have plenty of water and juices.

- If you experience nausea, open the air vents, keep your head still, lie back with your seat in the reclining position, close your eyes and try to relax.
- Use the airsickness bag well in time.
- As an added precaution, consult your physician before flight and take medication as advised.
- Do not experiment with self-medication.

SPEAKING:

4.9 GROUP DISCUSSION



Group Discussion is a process where the exchange of ideas and opinions are debated upon. This process is mostly used for selecting candidates for admission. A typical GD comprises of a small group of candidates. Each group is given a topic for discussion.

The candidates are given a time limit for discussing this topic. Each participant has to give his or her views about this topic. The panelists have to judge the discussion. After the time limit is over, the best candidate from the group has to sum up what has been discussed and has to give conclusion.



Requirements to participate in a group discussion

1) Have subject knowledge.

Be well aware of the latest happenings around you, not just in India but around the world as well. To be in a better position, make sure that you have in-depth knowledge on the subject.

2) Make Sure you Read Widely

Reading not only adds to your knowledge database but enhances your vocabulary skills as well. Plus reading over a period of time helps in your understanding of a particular subject/ topic better.

3) Choose Magazines that are Rich in Content

Always opt for magazines that are content rich and not just full of advertisements.

4) Be Aware of Topics that are Repeated

Often, there are topics which re-appear with minute changes and minor variations. Be aware of such topics well in advance so that you have ample time to prepare for the same. Eg: the issues of terrorism, gender inequality, poverty. Make sure you know these topics well and can come up with some unique, insightful points along with dates, stating facts.

Activity:

4.9.1 Imagine that you are a new candidate recently being selected as a Pilot. Start discussing with other pilots on paying attention to the feasibility and difficulty in performing in your job!


4.9.2 Imagine that you are a pilot and you have been cleared for take-off, upon getting airborne with the gear, what kind of discussion are you going to have with the Captain and others in the crew?

4.10. LISTENING:**LISTENING AND CLASSIFYING INFORMATION****4.10.1. Listen to the audio and say whether the following statements are true or false and correct the false statement**

1. Low weight and very large rooms and the high design range are the essential factors for the industry.
2. The normal weight of an airbusA380 is six hundred and fifty tons.
3. Airbus has wings with a length of about twenty eight meters
4. Industries that concerned with the weight reductions are highly interested in composites
5. A Fortran PPS is commonly used as the basic material for a fiber reinforced thermoplastic.

4.10.2. Listen to the audio and choose the best answer.

1. PPS is
 - a) Poly Phosphorous Sulphate
 - b) Poly Phenylene sulfide
 - c) Poly Plastic Sulphide
2. Polymers are _____ less weight than steel.
 - a) 20%
 - b) 40%
 - c) 60%
3. The weight of the airbus wing is
 - A)200kgs
 - b) 250kgs
 - c) 300kgs
- 4.The composites can easily be processed by
 - a) mixing & foaming
 - b) thermo foaming & welding
 - c) moulding & welding
5. An example for the excellent performance of lightweight profile is
 - a) Air bus 380
 - b) Airbus 350
 - c) Gulfstream G3-650.

 **4.10.3.Listen to the Audio Script on “Safety Instructions given in Singapore Airlines and complete the table differentiating Instructions and recommendations”.**

SINGAPORE AIRLINES SAFETY VIDEO

Welcome aboard Singapore Airlines!

We're now highlighting the safety features about aircraft.

Your safety is of at most importance to us till drop this flight

Please watch the safety video presentation even if you may have seen it before.

First store your hand luggage in the overhead compartment.

Take care when opening the compartment and ensure that your luggage does not fall out.

If there is sufficient space you may also put your hand luggage under the seat in front of you.

Any luggage which cannot be securely stored will need to be checked in.

Transmitting devices including mobile phones must be switched off at all times.

During takeoff and landing, the operation of any electronic equipment is not allowed.

Please switch off your electronic equipment now.

Secure your tray table and put your seat upright.

Store your in-seat video screen, hand set and footrest.

Window shades should be up.

And please keep your shoes on.

Fasten your seatbelt and tighten it.

To release it, lift the sketch.

Seatbelts should remain fastened whenever seated.

When the fastened seat belt sign is switched on, infants should be lifted from the bassinet and held in arms with the infant seat belt fastened.

In case of depressurization, oxygen masks will automatically drop from the compartments above.

Pull one mask downwards and place the mask over your nose and mouth .

Pour the elastic strap over your head and tighten it, by pulling the ends of the straps.

The oxygen supply is now regulated and it is normal that the oxygen bag may not fully inflate.

Remain calm and breathe normally.

If you are travelling with a child, attend to yourself first, then the child.

In case of an emergency landing, put your seat upright

Fasten your seatbelt and place your feet flat on the floor

Being forward as far as possible Unlock your arms and position

Now the use of your life vest !

Your life vest is under your seat or under the armrest between the seats.

Remove its plastic cover, when prompted to do so. Set the life vest over your head.

Bring the waist straps around your waist

Connect the clip and tighten the strap by pulling it out words

You should inflate your life vest only when you're about to leave through the emergency exit.

Pull the red strap firmly downwards.

To inflate it further, blow into the mouthpieces.

Use your whistle and light to attract attention.

Special life vest are available for children under the age of four.

Take note of the exit locations on this aircraft .

During evacuation do not take your personal belongings with you.

If smoke is present, keep low and follow the escape of lighting to the nearest exit.

Emergency exits are fitted with slides which can be used for lorn evacuations or as wax on water

Remove any high-heeled shoes prior to using the evacuation slide.

Passengers seated beside the emergency exit doors, may be called upon to assist the cabin crew.

Please refer to the safety information card for details.

This card also has details of the use of the life-jest and oxygen mask as well as the location of emergency exits any evacuation groups.

Smoking is not allowed but on all our flights

Smoking in the laboratory will set up a smoke alarm

**Thank you for your attention !!
and Have a pleasant flight!!**

SATHYABAMA UNIVERSITY**ENGLISH FOR SCIENCE AND TECHNOLOGY –SHS1101****ASSIGNMENT-II****1. Read the following paragraph and identify the topic sentence:**

Little or no grammar teaching, cell phone texting, social networking sites such as Facebook and Twitter, are all being blamed for an increasingly unacceptable number of post-secondary students who can't write. For years there's been a flood of anecdotal complaints from professors about what they say is the wretched state of English grammar coming from some of their students. Now there seems to be some solid evidence. The Internet norm of ignoring punctuation and capitalization as well as using emoticons may be acceptable in an e-mail to friends and family, but it can have a deadly effect on one's career if used at work.

2. Choose the correct idiomatic expression

1. The teacher asked us to talk about the -----
(a piece of cake/ odd and ends/ pros and cons /ups and downs) of industrial development .
2. The police found nothing special in the house of the criminal as he had taken all the important documents with him, leaving just ----- (a piece of cake/ odd and ends/ pros and cons /ups and downs) .
3. Don't worry about the problems you have in your business. You know there are always (a piece of cake/ odd and ends/ pros and cons /ups and downs) ----- in business.

4. If you think that doing this mathematics problem is-----
(a piece of cake/ odd and ends/ pros and cons /ups and downs) just try it.

3.Expand the following abbreviations

SONAR, AIDS,OPEC,TOEFL,UNICEF,UNESCO,WHO,PTO

4. Use appropriate punctuation marks in the following sentences.

1. We had a great time in France the kids really enjoyed it
2. Some people work best in the mornings others do better in the evenings
3. What are you doing next weekend
4. Mother had to go into hospital she had heart problems
5. Did you understand why I was upset
6. It is a fine idea let us hope that it is going to work

5. Following are the instructions to save electricity. Convert them into recommendations.

1. Wear the right clothes. Dress for the temperature.
2. Shut doors and close curtains.
3. Set your thermostat.
4. Turn heaters and coolers off when you don't need them.
5. Wash clothes using cold water.
6. Run your fridge efficiently.
7. Insulate your roof.
8. Stop standby power waste.

6. Identify the Types of sentences

1. The manager confidently made his presentation to the board of directors.
2. Everyone in the room cheered when the announcement was made.
3. Small children often insist that they can do it by themselves.
4. The clown chased a dog around the ring and then fell flat on her face.
5. Maria is typing a letter to her friend

7. Rewrite as directed

1. Mary loves broccoli. Her husband, John, hates broccoli. (into compound)
2. Jim had to work on Saturday. Jim wanted to go to the park on Sunday with his children. (into complex)
3. I am not allowed to ride on the sidewalk. People walk on the sidewalk. (into simple)

8. Expand the following compound nouns.

1. energy drink 2.fish tank 3.power cable 4.copper wire

9. Define the following terms technically.

1. log table 2. Flow chart 3. planet 4. thermostat

10.Frame questions for which the underlined words are the answers.

- a. The postal service is the government agency that handles the mail.
- b. He has returned from London last week.
- c. I am waiting here for the last two hours.
- d. One of my sisters is going on a trip to France.

11. Add question tag for the following

- a. The dancer was not tall,?
- b. She giggled with delight,?
- c. Beni has calculus test on Friday,?
- d. They will come if you will invite them,?

PART-B

1. Write a project proposal, by comparing the types of water harvesting methods (bore well method, open well method, percolation pit, recharge well, trench, trench with bore) used by residents of any particular area. Your proposal should clearly mention the purpose of the study, back ground, scope, method (theoretical/ experimental/ empirical/ survey etc), scope, limitations and delimitations of the study.

2. Prepare a user manual for any product of your choice.

3. Edit the following passage with respect to spelling, grammar and punctuation.

The misfortunes of human beings may be divided into two classes first those inflicted by the nonhuman environment and, second those inflicted by other people. As mankind have progressed in knowledge and technique, the second class has become a continually increasing percentage of the total. In old times, famine for example, was due to natural causes, and, although people did their best to combat it, large number of them dies of starvation. At the present movement large parts of the world faced with the threats of famine. Although natural causes have contributed to the situation, the principal causes are human. The evils that men inflict each other has their main source in evil passions rather than ideas or beliefs.

4. Write a set of 10 instructions to be followed by a pedestrian.

5. Write a set of 10 recommendations to save water.

6. Rearrange the following Jumbled sentences in the correct order.

- (a) The aim is to find out how much of these raw materials could be provided if a plant for recycling waste were built just outside the city.
- (b) All these ideas are already being made use of, but what is new is the idea of combining them on such a large scale in a single plant designed to recycle most types of waste.
- (c) A new concept of recycling waste is taking shape in the form of a project.
- (d) This plant would recycle not only metal such as steel, lead and copper, but also paper and rubber as well.
- (e) The latest project is to take a city of around half a million inhabitants and discover exactly what raw materials go into it and what goes out.
- (f) Methods have been discovered for example for removing the ink from newsprint.
- (g) This would enable the paper to be used again.
- (h) Also through these methods, valuable oils and gases can be obtained from old motorcars.

7. Write an argumentative essay on “Is nuclear energy useful to the man?”

8. Read the following paragraph and frame as many questions as possible.

Winner of the Lindbergh Prize for Innovation in 2012, the Volocopter is the first manned electric multirotor craft. E-Volo's aim was to build a helo that could be run for pennies using a multirotor system that removed the need for complex mechanics. While normal helicopters require bulky and expensive pitch control assemblies to steer, the Volocopter changes direction simply by changing the relative speeds of the rotors. The initial version is a pure pleasure craft with a flight time of about 20 minutes. The follow-up under development, called VC-200, will feature an enclosed cockpit for two and an endurance of about an hour.

9.Read the passage on ‘ Wires’ and prepare notes:

Electrical wires have markings stamped or printed on the outside sheath of the cable. These markings tell what type and size of wire that you have. But looking deeper, the color of the wires inside of the sheath, like in type NM cable, will reveal that different color wires serve different purposes. Black wires are always used for hot wires. These wires may feed a switch or outlet and are often used as switch legs. Never use a black wire for a neutral or ground connection. Red wires are also used for hot wires, switch legs and are the second hot wire in 220-volt installations. Another useful application is the interconnect wire between two hardwired smoke detectors. Blue and yellow wires are used as hot wires. These wires are usually pulled in conduit. The blue wires are generally used for travelers in three-way and four-way switch applications. They also are used as switch legs to things like lights and fans. Yellow wires are generally used for switch legs. These control things like light, fans, and switched outlets. Green wires

and bare copper wires are used only for grounding. These wires will ground devices and shall be bonded to junction boxes and appliance connections for safety. There are exceptions to wire color. In certain instances, wire colors may be used for connections that don't follow these general rules. For instance, a white wire in a two-conductor cable may be used for the second hot wire on a 240-volt appliance or outlet connection. Another application is using the white wire for a switch leg for lighting or running a three-way switch application. This white wire should be properly marked to show that it is being used for something other than a neutral.
