Learning Objectives 090 Communications

Syllabus reference	Syllabus details and associated Learning Objectives
090 00 00 00	**COMMUNICATIONS**
091 00 00 00	**VFR COMMUNICATIONS** **(understood as basic information for IFR-procedures)**
091 01 00 00	**DEFINITIONS**
091 01 01 00	**Meanings and significance of associated terms**
LO	Stations
LO	Communication methods
091 01 02 00	**Air Traffic Services abbreviations**
LO	Define commonly used Air Traffic Control abbreviations: - Flight conditions - Airspace - Services - Time - Miscellaneous
091 01 03 00	**Q-code groups commonly used in RTF air-ground communications**
LO	Define Q-code groups commonly used in RTF air to ground communications: - Pressure settings - Directions and bearings
LO	State the procedure for obtaining bearing information in flight
091 01 04 00	**Categories of messages**
LO	List the categories of messages in order of priority
LO	Identify the types of messages appropriate to each category
LO	List the priority of a message (given examples of messages to compare)
091 02 00 00	**GENERAL OPERATING PROCEDURES (see IFR 092 02)**
091 02 06 00	**Radiotelephony call signs for aeronautical stations including use of abbreviated call signs**
LO	Name the two parts of the call sign of an aeronautical station
LO	Identify the call sign suffixes for aeronautical stations
LO	Explain when the call sign may be omitted or abbreviated to the use of suffix only
091 02 07 00	**Radiotelephony call signs for aircraft including use of abbreviated call signs**
LO	List the three different ways to compose an aircraft call sign
LO	Describe the abbreviated forms for aircraft call signs
LO	Explain when aircraft call signs may be abbreviated
091 03 00 00	**RELEVANT WEATHER INFORMATION TERMS (VFR)** **(Understood as basic information for IFR procedures 092 05)**
091 03 01 00	**Aerodrome weather**
LO	List the contents of aerodrome weather reports and state units of measurement used for each item - Wind direction and speed - Variation of wind direction and speed - Visibility - Present weather

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	- Cloud amount and type (including the meaning of CAVOK) - Air temperature and dewpoint - Pressure values (QNH, QFE) - Supplementary information (aerodrome warnings, landing runway, runway conditions, restrictions, obstructions, windshear warnings, etc)
091 03 02 00	**Weather broadcast**
LO	List the sources of weather information available for aircraft in flight
LO	Explain the meaning of the abbreviations: ATIS, VOLMET
091 04 00 00	**ACTION REQUIRED TO BE TAKEN IN CASE OF COMMUNICATION FAILURE**
LO	State the additional information that should be transmitted, in the event of receiver failure
LO	Identify the SSR code that may be used to indicate communication failure
092 00 00 00	**IFR COMMUNICATIONS**
092 01 00 00	**DEFINITIONS**
092 01 01 00	**Meanings and significance of associated terms**
LO	As for VFR plus terms used in conjunction with approach and holding procedures
092 01 02 00	**Air Traffic Control abbreviations**
LO	As for VFR plus additional IFR related terms
092 01 03 00	**Q-code groups commonly used in RTF air-ground communications**
LO	Define Q-code groups commonly used in RTF air to ground communications: - Pressure settings - Directions and bearings
LO	State the procedure for obtaining a bearing information in flight
092 01 04 00	**Categories of messages**
LO	List the categories of messages in order of priority
LO	Identify the types of messages appropriate to each category
LO	List the priority of a message (given examples of messages to compare)
092 02 00 00	**GENERAL OPERATING PROCEDURES**
092 02 01 00	**Transmission of letters**
LO	State the phonetic alphabet used in radiotelephony
LO	Identify the occasions when words should be spelt
092 02 02 00	**Transmission of numbers (including level information)**
LO	Describe the method of transmitting numbers - Pronunciation - Single digits, whole hundreds and whole thousands
092 02 03 00	**Transmission of time**
LO	Describe the ways of transmitting time - Standard time reference (UTC) - Minutes, minutes and hours, when required
092 02 04 00	**Transmission technique**
LO	Explain the techniques used for making good R/T transmissions
092 02 05 00	**Standard words and phrases (relevant RTF phraseology included)**
LO	Define the meaning of standard words and phrases

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LO	Use correct standard phraseology for each phase of IFR flight - Pushback - IFR depature - Airways clearances - Position reporting - Approach procedures - IFR arrivals
092 02 06 00	**Radiotelephony call signs for aeronautical stations including use of abbreviated call signs**
LO	As for VFR
LO	Name the two parts of the call sign of an aeronautical station
LO	Identify the call sign suffixes for aeronautical stations
LO	Explain when the call sign may be abbreviated to the use of suffix only
092 02 07 00	**Radiotelephony call signs for aircraft including use of abbreviated call signs**
LO	As for VFR
LO	Explain when the suffix “HEAVY” should be used with an aircraft call sign
LO	Explain the use of the phrase “Change your call sign to . . .”
LO	Explain the use of of the phrase “Revert to flight plan call sign”
092 02 08 00	**Transfer of communication**
LO	Describe the procedure for transfer of communication - By ground station - By aircraft
092 02 09 00	**Test procedures including readability scale; establishment of RTF communication**
LO	Explain how to test radio transmission and reception
LO	State the readability scale and explain its meaning
092 02 10 00	**Read back and acknowledgement requirements**
LO	State the requirement to read back ATC route clearances
LO	State the requirement to read back clearances related to runway in use
LO	State the requirement to read back other clearances including conditional clearances
LO	State the requirement to read back data such as runway, SSR codes etc
092 02 11 00	**Radar procedural phraseology**
LO	Use the correct phraseology for an aircraft receiving a radar service - Radar identification - Radar vectoring - Traffic information and avoidance - SSR procedures
092 02 12 00	**Level changes and reports**
LO	Use the correct term to describe vertical position - In relation to flight level (standard pressure setting) - In relation to Altitude (metres/feet on QNH) - In relation to Height (metres/feet on QFE)
092 03 00 00	**ACTION REQUIRED TO BE TAKEN IN CASE OF COMMUNICATION FAILURE**
LO	Describe the action to be taken in communication failure on an IFR flight

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LO	Describe the action to be taken in case of communication failure on an IFR flight when flying in VMC and the flight will be terminated in VMC
LO	Describe the action to be taken in case of communication failure on an IFR flight when flying in IMC
092 04 00 00	**DISTRESS AND URGENCY PROCEDURES**
092 04 01 00	**PAN medical**
LO	Describe the type of flights to which PAN MEDICAL applies
LO	List the content of a PAN MEDICAL message in correct sequence
092 04 02 00	**Distress (definition – frequencies – watch of distress frequencies – distress signal – distress message)**
LO	State the DISTRESS procedures
LO	Define DISTRESS
LO	Identify the frequencies that should be used by aircraft in DISTRESS
LO	Specify the emergency SSR codes that may be used by aircraft, and the meaning of the codes
LO	Describe the action to be taken by the station which receives a DISTRESS message
LO	Describe the action to be taken by all other stations when a DISTRESS procedure is in progress
LO	List the content of a DISTRESS message
092 04 03 00	**Urgency (definition – frequencies – urgency signal – urgency message)**
LO	State the URGENCY procedures
LO	Define URGENCY
LO	Identify the frequencies that should be used by aircraft in URGENCY
LO	Describe the action to be taken by the station which receives an URGENCY message
LO	**Describe the action to be taken by all other stations when an DISTRESS procedure is in progress**
LO	List the content of an URGENCY signal/message in the correct sequence
092 05 00 00	**RELEVANT WEATHER INFORMATION TERM**
092 05 01 00	**Aerodrome weather**
LO	As for VFR plus the following
LO	Runway visual range
LO	Braking action (friction coefficient)
092 05 02 00	**Weather broadcast**
LO	As for VFR plus the following
LO	Explain when aircraft routine meteorological observations should be made
LO	Explain when aircraft Special meteorological observations should be made
092 06 00 00	**GENERAL PRINCIPLES OF VHF PROPAGATION AND ALLOCATION OF FREQUENCIES**
LO	Describe the radio frequency spectrum with particular reference to VHF
LO	State the names of the bands into which the radio frequency spectrum is divided
LO	Identify the frequency range of the VHF band
LO	Name the band normally used for Aeronautical Mobile Service voice communications

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LO	State the frequency separation allocated between consecutive VHF frequencies
LO	Describe the propagation characteristics of radio transmissions in the VHF band
LO	Describe the factors which reduce the effective range and quality of radio transmissions
LO	State which of these factors apply to the VHF band
LO	Calculate the effective range of VHF transmissions assuming no attenuating factors
092 07 00 00	**MORSE CODE**
LO	State the identification of radio navigation aids (VOR, DME, NDB, ILS) from their morse code identifiers
LO	SELCAL, TCAS, ACARS phraseology and procedures