



GOVERNMENT OF INDIA

OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTER, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENT
SECTION 7, SERIES B PART II
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Subject : Syllabus for Oral Examination for Issuance of Student Pilot's Licence for Aeroplanes, Microlight Aircraft, Gliders and Balloons.

1. INTRODUCTION

Sections B, C and D of Schedule II of the Aircraft Rules, 1937 stipulate, amongst other requirements, that for issuance of Student Pilot's Licence (SPL) (Aeroplanes/Gliders), SPL (Microlight Aircraft) and SPL (Balloons) respectively, the applicant shall have to pass an oral examination as per the syllabus prescribed by the DGCA. Accordingly, this CAR lays down the main topics of the syllabus for the guidance of the candidates for appearing in the oral examination for issuance of these licences.

This CAR is issued under the provisions of Schedule II and Rule 133A of the Aircraft Rules, 1937.

2. SYLLABUS

2.1 AIR REGULATIONS

- 2.1.1 Knowledge of terms used in Aviation such as aircraft, aeroplane, aerodrome, balloon, co-pilot, Director General, flight time, solo flight time, dual flight time, log book, flight crew member, helicopter, prohibited area, take-off, landing, Air Traffic Control, Mayday, PAN, etc.
- 2.1.2 The different categories of pilots' licences.
- 2.1.3 Student Pilot Licence, requirements for issue, renewal, validity and privileges.
- 2.1.4 Visual Flight Rules.

2.1.5 Ground markings, visual and light signals with specific reference to visual flights and circuit flying.

2.2 AIR NAVIGATION

2.2.1 Basic knowledge of form of earth and the method of representing sphere (Earth) on a flat surface for mapping.

2.2.2 Basic knowledge of various units of measure such as

- nautical miles, kilometer, statute mile
- Fahrenheit and Celsius, millibars (hectopascal)
- lbs, kilogram, US and Imperial gallons, litres, and conversion from one to other.

2.2.3 Elementary knowledge of some navigational instruments such as Magnetic Compass. Air Speed Indicator, Altimeter and basic knowledge of magnetism.

2.2.4 Use of Radio Telephony, VHF etc.
Elementary understanding of Radio Navigational Aids such as NDB, VOR, and their uses in aviation (appreciation only).

2.3 AVIATION METEOROLOGY

2.3.1 Elementary knowledge of atmosphere and its properties.

2.3.2 Basic knowledge of temperature, pressure and density and their relationship.

2.3.3 I) Elementary knowledge of relationship between pressure and wind.
II) Elementary knowledge of

- a) variation of wind with height.
- b) sea breeze and land breeze.

2.3.4 Elementary knowledge of different types of clouds and precipitation.
Basic understanding of hazards associated with certain types of clouds.

2.3.5 Elementary knowledge of the terms --
Visibility, Fog, Mist and Haze.

2.3.6 Elementary knowledge of variation of pressure with height, and the Q codes--
QNH, QFE and QNE, etc.

2.3.7 Basic understanding of METAR, SPECI and aerodrome warnings and their importance in aviation.

2.3.8. Elementary knowledge of the uses of Anemometer, Aneroid Barometer, Wind Sock etc.

2.4 AIRCRAFT AND ENGINES

2.4.1 Elementary knowledge of -- density, pressure, temperature, humidity and the relation-ship between them.

2.4.2 Understanding of the terms – thrust, drag, lift, weight, aerofoil. angle of attack, centre of lift, stalling, range endurance etc.

2.4.3 Elementary knowledge of the forces acting on an aerofoil in level flight – understanding of Bernoulli's Theorem.

2.4.4 Elementary knowledge of the primary controls, understanding of the uses of aileron, rudder, elevator, stabiliser, trimming devices, flaps, landing gear etc.

2.4.5 General knowledge of the principle of operation of a piston engine and associated systems.

2.4.6 Elementary knowledge of the principle of a fixed pitch propeller.

2.4.7 Elementary knowledge of weight and balance.

2.4.8 Basic knowledge of first-aid , the use of generally available first-aid-kits.

2.4.9 Elementary knowledge of
(i) Certificate of Airworthiness
(ii) Certificate of Registration
(iii) Flight Release

2.4.10 Basic knowledge of the following systems of the type of aircraft.

- (a) flying controls and flaps
- (b) landing gear
- (c) electrical system
- (d) heating and ventilating system
- (e) flight instruments
- (f) types of propellers

2.4.11 Adequate knowledge of the instrumentation and radio navigation aids pertaining to the aircraft.

2.4.12 Basic handling and care of aircraft.

Sd/-
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Director General of Civil Aviation