CATC I FINAL TEST

MARKS-150
DURATION- 2 Hrs 30 Min

FILL IN THE BLANK

(1X150 Marks)

01. Place from where pilot controls the aircraft is **Cockpit**
02. In the aircraft, the part which produces lift is known as **Main plane**
03. The right hand side of the aircraft as seen by the pilot looking forward is known as **Star board**
04. **Elevator** is mounted on the trailing edge of the Horizontal stabilizer
05. **Fuselage** is an aircraft's main body that holds passengers
06. The rotary motion of an air craft about its lateral axis is known as **Pitching**
07. **Drag** is the horizontal component of the total reaction acting in the same direction as the relative airflow
08. The deviation of mean line from chord is known as- **Chamber**
09. The forward edge of an aero foil surface is known as **Leading edge**
10. **Stall** is a condition in aerodynamics and aviation wherein the angle of attack increases beyond a certain point such that the lift begins to decrease.
11. The angle between chord line and the longitudinal axis of the aircraft is called **Angle of incidence**
12. The small auxiliary aero foils surface in front of the main aero foil leading edge with suitable gap is called **Slat**.
13. **Flaps** are hinged surfaces mounted on the trailing edge of the wings to shorten take off and Landing distances.
14. **Ailerons** are mounted on the trailing edge of each wing near the wingtips and move in opposite direction.
15. Elevator moves up and down **Together.**
16. Design of a fuselage should be **economical** and easy for **production and repair.**
17. As the airplane slows down it must **Increase** angle of attack to create same lift.
18. Air divides smoothly around a wing's rounded leading edge, and flows neatly off its tapered trailing edge this is called **streamlining**.
19. A variable sweep wing is also known as **Swing wing.**
20. When control stick is moved backward the elevator moves **Upwards**
21. **Rudder** provides directional stability of aircraft.
22. Fixed slats are permanently **extended.**
23. Flaps **shorten** take-off and landing distances.
24. Subsonic flight aerofoils have a characteristic shape with a rounded **Leading edge** followed by sharp **Trailing edge.**
25. Lift coefficient is determined by **Camber of the aerofoil used**
26. A body is said to be in equilibrium when algebraic sum of all the forces acting on the body is **zero**.
27. **Total Reaction** is one single force representing all the pressures (force per unit area) over the surface of the aerofoil.
28. In flight, the force of **weight** is countered by the forces of lift and thrust.
29 A point at which the angle of attack will be equal to the critical (stall) angle of attack this speed is called the **stall speed**.
30. Most gliders are equipped with **Spoilers** on the wings in order to adjust their angle of descent during approach to landing.

31. **Aero engine** convert one form of energy to another form to produce required propulsion.
32. In aero engine, **forward thrust** is produced as per Newton's third law of motion
33. All the gas kinetic energy is used for propulsion in **rockets** and **ram-jets**.
34. The ambient air enters the engine through the **air intake**
35. Thrust is achieved by **expelling gas** at a high velocity.

36. In free turbine engine **propeller** is driven by a **dedicated turbine**.
37. If "m" is the mass flow of gas with "v1" as inlet velocity and "v2" as outlet velocity then forward force "f" is given by **F=M(V2-V1)**.
38. **Single shaft** and **Free turbine** engines are two types of turbo prop engines.
39. **Propulsion by reaction** is a type of propulsion in which a small mass of air is expelled rearwards with a great acceleration
40. The principal of operation of a jet engine is similar to a **piston engine**.
41. **Turbine** is used for expansion of combustion gas.
42. In single shaft engine, **Reduction gear box** reduces the engine shaft rotational speed to accommodate the propeller drive shaft.
43. In free turbine engine, reduction gearbox converts the **turbine RPM** to an appropriate level for propeller
44. In turbo prop engines propeller is attached with **low pressure rotor** at the front via a **gearbox**
45. Turbo prop engine is a gas engine which supplies **mechanical energy** to a propeller.

46. In the Higher layers there is a concentration of Ozone between **30 and 50**km.
47. The temperature in stratosphere region is **Steady or increases** with height.
48. As per the International standard atmosphere (ISA) mean sea level temperature is **15°c**
49. The average height of high clouds is **20000 ft** and above.
50. The study of **Cloud** is one of the fascinating aspect of weather science and important tool of weather forecasting.
51. A storm in which solid pellets of ice fall on the ground is called **Hail storm**
52. Clouds with vertical base 1500 feet to 6500 feet development but tops reaching high and medium cloud level is called **Cumulo-Nimbus**
53. Composition of Oxygen in dry air by volume is **20.95%**
54. The presence of suspended particles like dust, smoke and other impurities causes **Reduction** in visibility.
55. As per the International standard atmosphere (ISA) surface density is **1225 g/m3**
56. The **Ionosphere** layer of atmosphere causes the reflection of radio waves and making communication possible.
57. The rate of decrease of atmospheric pressure is found to be **1 millibar** for every 30 feet of height.
58. The lowest temperature found in mesosphere region of atmosphere is about **-90°c**
59. An aviator must have adequate knowledge of meteorology and an appreciation of the effect of **Weather** on all aspects of flying.
60. On earth a number of **imaginary lines** are drawn to understand and simplify air navigation
61. When a projection has a graticule of latitude, longitudes and abundance of ground features, it is called a **map**
62. **Bearing** measurement anywhere on the reduced earth will be identical to the measurement on the earth
63. **Ante-meridian** indicates North-South direction
64. At about **700 KM**, the gravitational pull of the earth is practically absent
65. The height of tropopause from the equator is **16-18 KM**
66. **Equator** divides the earth into northern & southern hemisphere
67. VFR stands for **Visual Flight Rule**
68. The upper boundary of the troposphere is called **Tropopause.**
69. Longitude measured in degrees, minutes & seconds from **0° to 180°** along the prime meridian
70. The equatorial diameter of earth is **6884 NM**
71. The symbols used to denote the details of a map are also called as **Conventional Signs**
72. Pilot largely navigates using **dead reckoning** combined with visual observation with reference to maps
73. The earth is an **oblate spheroid** shaped object

Relief is indicated on maps and charts in one or more of five different ways.

75. In aviation both **Map** and **Chart** are used for navigation

76. The term RADAR was coined in **1940** by United States Navy
77. Continuous wave radar requires **two** aerials
78. Primary radar is working on **echo and search light** principal
79. In **Secondary radar**, the active co-operation of the other object is also required in the entire process
80. The word **RADAR** is used as acronyms for Radio detection and ranging
81. The earth and sky seem to meet at **Natural** Horizon
82. **Open** ended capsule is used in air speed indicator
83. In altimeter, the aneroid capsule **Expands** to indicate increase in the height of an aircraft
84. An altimeter has **three** pointers
85. Brown colour of display in artificial horizon indicates **Ground**
86. The instrument used to measure the atmospheric pressure is known as **Aneroid Barometer**
87. **Static** Pressure is fed into the case of altimeter
88. An altimeter has a window on dial to indicate the **pressure** value in numbers
89. Artificial Horizon indicates **Pitch** and **Roll** of the aircraft to the pilot.
90. Full Form of MSL is **Mean Sea Level**
91. In 1878 **Professor Langley** built a petrol driven model called Aerodrome No.5.
92. The model which is flying with the help of engine power is called **Powered model**
93. The successful experiments in aeromodelling were started in the **19th century**.
94. The material used for smoothing the surface of the wood is **Sand Paper**
95. Sir George Caley built the **Helicopter** model based on a design of Leonardo-da- Vinci, in 1796.
96. The fuel composition used in glow engine is **Methanol**
97. **Dr. Thomas Young** was the first person to discover the lifting property of a cambered surface in comparison to the flat surface.
98. **Balsa** wood is mainly used for making aero models
99. By constructing the models by one's own hands will make understanding of **Principles of flight** .
100. Aeromodelling requires an elementary knowledge of **Carpentry**
101. Eastern naval command of Indian Navy is located in **Vishakhapatnam**
102. The First and the only 'Five star' rank officer with the Indian Air Force is **Marshal of the Air Force Arjan Singh, DFC**
103. A Field Marshal is a **Five** star rank officer
104. The equivalent rank to Brigadier in Indian air Force is **Air Commodore**
105. Highest gallantry award in the face of enemy (War time) is **Param Vir Chakra(PVC)**
106. Flight safety, ATC, Meteorology, Navigation at Station/Wing level is looked after by **COO**
107. Age limit to appear for Officer Entry in Technical branch is **18-28**
108. Training command Headquarters is located in **Bangalore**
109. During war time aircraft recognition helps the mop to identify the aircraft as **friend or Foe**.
110. Different colors of markings of IAF air craft markings are **Green**, **White** and **Saffron**
111. **30mm GSH** gun is used in Su-30 MKI aircraft
112. **Mig-29** is a twin engine, single seater air superiority fighter air craft
113. **Jaguar** is a deep penetration strike aircraft
114. LCH stands for **Light Combat Helicopter**.
115. Present chief of air staff is **Air chief Marshal Vivek Ram Choudhary**.
116. Modern aircraft use **computer software** to control the aircraft.
117. UAV stands for **Unmanned Aerial Vehicle**
118. Glass Cockpit also eliminate the work of a **flight engineer**
119. Chinook is highly maneuverable and especially suited for **narrow vallies**
120. Fly-by-wire system also allows **automatic signals** sent by the aircrafts computers to perform functions without the pilot inputs.
121. Full Form of DFC is **Distinguished flying cross**
122. During indo pak war 1971 **Indira Gandhi** was the Prime Minister
123. Full form of VA is **Vital Areas**

124. **Air Marshal Arjan Singh** awarded the Padma Vibhushan in 1965
125. Full form of LOC is **Line of Control**
126. IAF anniversary is celebrated on **08 Oct 1932** every year
127. The Indian Navy is **fifth** largest in the world
128. IL-76 can carry **40** tons freight
129. S-400 is a **Russian** origin air defence system
130. UAV is flown by a pilot at **ground control station**

131. **Approach** lighting is used for the pilots to make approach for landing in poor visibility or at night.
132. Runway designation markings shall consist of a **two** digit number
133. The place where the aircraft is arrived or departed is called **Aerodrome**
134. Airmanship helps for promotes flight **safety**
135. The paved ground area where the aircraft moving is called **Movement area**
136. Aerodrome pressure corrected for temperature and adjusted to mean sea level is called **QNH**
137. Minimum flying altitude of the aircraft is **2000 Ft.** above the ground
138. Marking of single 6" wide unbroken centre line is used for **Taxi line**
139. The rectangular portion of the airfield, where the aircraft is runs along with the shoulders and cleared zones is called **Flight Strip**
140. **Airmanship** helps to inculcate the sense of discipline amongst pilots & other crew members

141. The first evidence of Hypoxia occurs in the form of diminished **Night vision**
142. It is advisable to use **Valsalva Technique** to overcome the ear block problem
143. **Hyperventilation** or over breathing is a result of emotional tension or anxiety
144. At 14000 Ft, **Cyanosis** (Blue discoloring of the finger nails) is first noticed
145. In Hypoxia, the pilot enjoys a misguided sense of **well-being**
146. **Hypoxia** can be defined as a lack of sufficient Oxygen in the body cells or tissue
147. The outer ear is the **auditory canal** and ends at the eardrum
148. **Flying fatigue** has repeatedly been cited as the casual factor in air plane accident
149. The general rule for use of oxygen above **10000** ASL by day is essential
150. Continuous operation at above **10000 Ft** altitude for a period more than 4 hrs can produce fatigue in pilot