Reg. No.															

B.Tech. DEGREE EXAMINATION, NOVEMBER 2023

Sixth Semester

18ASO104T – AIRCRAFT GENERAL ENGINEERING AND MAINTENANCE PRACTICES

(For the candidates admitted from the academic year 2020-2021 & 2021-2022)

Note:

(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.

(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

	Marks	BL	CO	PO

PART – A (20 × 1 = 20 Marks)

Answer **ALL** Questions

1. _____ is one reason why specialty clearness have been developed. 1 1 1 1

(A) Paint (B) Oil

(C) Thinner (D) Fuel

2. A _____ should be assigned when sharp turns are to be made, or when the aircraft is to backed into position. 1 1 1 1

(A) Wing walker (B) Tail walker

(C) Working personnel (D) Towing vehicle driver

3. The tanks of some aircraft are fitted with _____ which can be checked manually prior to refueling. 1 1 1 1

(A) Pressure relief valves (B) Check valves

(C) Sequence valves (D) Priority valves

4. Engines which have been removed from aircraft for storage, or uninstalled engines which are being returned for repair or overhaul, should be protected internally, and sealed in _____ envelopes. 1 1 1 1

(A) MAP (B) MAAP

(C) MVP (D) VIP

5. In an air cycle system, separate _____ for cooling system is not required. This reduces the _____. 1 1 2 1

(A) Turbine, weight (B) Compressor, weight

(C) Turbine, weight per kW cooling (D) Compressor, weight per kW cooling

6. In an air starting trolley, a regulating valve controls the delivery of air pressure from _____ psi. 1 1 2 1

(A) 25 to 35 (B) 35 to 45

(C) 45 to 55 (D) 55 to 65

7. Inspection of an air delivery hose should be carried out after approximately _____ hours of operation. 1 1 2 1

(A) 600 (B) 500

(C) 300 (D) 50

8. Which one of the following is NOT an element of fire? 1 1 2 1
(A) Heat (B) Oxygen
(C) Fuel (D) Carbon dioxide

9. _____ is an excellent tool as long as it is under control. 1 1 3 1
(A) Compressed air (B) Soldering
(C) Lathe (D) Welding

10. _____ represents little or no hazard to the user. 1 1 3 1
(A) 1 (B) 2
(C) 3 (D) 0

11. In 1940, it was calculated that approximately _____ of all aircraft accidents were attributable to man's performance, that is to say human error. 1 1 3 1
(A) 50% (B) 60%
(C) 70% (D) 80%

12. The change of shape of the _____ is called accommodation. 1 1 3 1
(A) Cornea (B) Lens
(C) Iris (D) Pupil

13. Aircraft having an air traffic control (ATC) transponder must have each transponder checked within the preceding _____ months. 1 1 4 1
(A) 12 (B) 10
(C) 18 (D) 24

14. _____ contains information for the mechanic who normally works on components, assemblies and systems while they are installed in the aircraft, but not for the overhaul mechanic. 1 1 4 1
(A) Aircraft logbook (B) Checklist
(C) Maintenance manual (D) Publications

15. The _____ may be of your own design, one provided by the manufacturer of the equipment being inspected, or one obtained from some other source. 1 1 4 1
(A) Checklist (B) Maintenance manual
(C) CFR (D) TCDS

16. Environment analysis during inspection includes _____. 1 1 4 1
(A) Takeoff and landing issues (B) Identifying all consumables used and hazards
(C) Identifying applicable framework for operation places (D) Identification of operations demanding energy water or other resources

17. The _____ is designed to serve the aviation mechanic in the same way a pencil or pen serves a writer. 1 1 5 1
(A) Combination sets (B) Scriber
(C) Calipers (D) Rules

18.	Flame test is used to identify _____ alloys. (A) Magnesium (B) Nickel (C) Copper (D) Aluminium	1	1	5	1
19.	Soldering is a process that uses a metal alloy that melts below _____°F. (A) 810 (B) 820 (C) 830 (D) 840	1	1	5	1
20.	_____ uses sound waves of short wavelength and high frequency to detect flaws or measure material thickness. (A) Magnetic particle testing (B) Liquid penetrant testing (C) Ultrasonic testing (D) Eddy current testing	1	1	5	1

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Classify wind based on velocity and list the tie down requirements for an aircraft.	4	1	1	1
22.	Briefly explain the operating procedure of air starting trolley.	4	1	2	1
23.	Write short notes on human performance as part of maintenance engineering system.	4	1	3	1
24.	Write short notes on airworthiness directives.	4	1	4	1
25.	Define (i) Reinforcement (ii) Fusion zone	4	1	5	1
26.	Discuss briefly about fumigation process carried out during aircraft cleaning.	4	1	1	1
27.	What is the significance of NDT methods in aviation industry and name them?	4	1	5	1

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Explain how a towing procedure is performed in an airplane.	12	2	1	1
	(OR)				
b.	Discuss in detail about the refueling and defueling procedure carried out in an aircraft.	12	2	1	1
29. a.	Explain in detail about the electrical starting trolley used in aviation.	12	2	2	1
	(OR)				
b.	What is the need for metal particle identification in an oil system? Describe the various test procedures followed to identify the metal particles.	12	2	2	1

30. a.	Write short notes on electrical safety, fire safety and safety around compressed gases in aviation industry.	12	2	3	1
	(OR)				
b.	State and explain the various factors affecting the human performance.	12	2	3	1
31. a.	What is type certificate data sheet? Explain in detail.	12	2	4	1
	(OR)				
b.	Write about various special inspections carried out in an aircraft.	12	2	4	1
32. a.	Discuss the role of hammers and punches in aviation industry with a suitable sketch.	12	2	5	1
	(OR)				
b.	What is troubleshooting process? Explain troubleshooting with and without chart with suitable block diagrams.	12	2	5	1

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