

- b. Write about progressive inspection and continuous inspection carried out in an aircraft. 12 2 4 1
32. a. Discuss the role of screwdrivers and pliers in aviation industry with a suitable sketch. 12 2 5 1

(OR)

- b. List the various NDT methods. Discuss in detail about any two methods with necessary sketches. 12 2 5 1

Reg. No.

B.Tech. DEGREE EXAMINATION, JUNE 2023
Sixth Semester

18ASO104T – AIRCRAFT GENERAL ENGINEERING AND MAINTENANCE PRACTICES
(For the candidates admitted during the academic year 2018-2019 to 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

PART – A (20 × 1 = 20 Marks)

Answer ALL Questions

- | | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 1. Before rigging the aircraft _____ has to be done.
(A) Mooring (B) Jacking
(C) Towing (D) Levelling | 1 | 1 | 1 | 1 |
| 2. Gale is a strong wind with a velocity of _____ km/hr.
(A) 22 to 55 (B) 55 to 75
(C) 75 to 130 (D) 130 and above | 1 | 1 | 1 | 1 |
| 3. In standard taxi light signals, steady red light indicates _____.
(A) Return to starting point (B) Cleared to taxi
(C) Step (D) Exercise extreme caution | 1 | 1 | 1 | 1 |
| 4. Ice on the propeller blades can be treated with chemicals from _____ on the propeller hub.
(A) Slinger rings (B) O-rings
(C) Discharge nozzle (D) Vent | 1 | 1 | 1 | 1 |
| 5. Halogenated hydrocarbons which are called as “halons” are very effective on _____.
(A) Class “A” fire (B) Class “B” fire
(C) Class “C” fire (D) Class “D” fire | 1 | 1 | 2 | 1 |
| 6. Freon when heated over an open flame, it converts to _____ which is deadly poisonous
(A) Sulphuric acid (B) Hydrochloric acid
(C) Phosgene (D) Nitric acid | 1 | 1 | 2 | 1 |
| 7. _____ particles will dissolve rapidly when dropped into a 5 percent solution of chromic acid.
(A) Tin (B) Cadmium
(C) Iron (D) Aluminum | 1 | 1 | 2 | 1 |
| 8. The _____ are gas-turbine engines, using the aircrafts own fuel supply, which provide the power to run the attached generators.
(A) APU (B) GPU
(C) CPU (D) LRU | 1 | 1 | 2 | 1 |

9. Blue colour in a risk diamond represents _____.
 (A) Flammability (B) Reactivity
 (C) Health hazard (D) Special hazard
10. At the point at which the optic nerve joins the back of the eye, a _____ occurs.
 (A) Monocular vision (B) Blind spot
 (C) Visual spot (D) Peripheral vision
11. _____ is common in most work situations, where people are required to do more than one thing at the same time.
 (A) Selective attention (B) Focused attention
 (C) Divided attention (D) Sustained attention
12. _____ are used widely in cold cures and in the treatment of allergies.
 (A) Antibiotics (B) Analgesics
 (C) Melatonin (D) Anti-histamines
13. _____ are the sources of information for guiding aviation mechanics in the operation and maintenance of aircraft and related equipment.
 (A) Checklists (B) Aeronautical publications
 (C) Aircraft logs (D) TCDS
14. _____ were established by law to provide for the safe and orderly conduct of flight operations and to prescribe airmen privileges and limitations.
 (A) CFR (B) FCR
 (C) RCF (D) FAA
15. Airworthiness directives may be divided into _____ categories.
 (A) One (B) Two
 (C) Three (D) Four
16. An aircraft may be flown up to _____ hours beyond the 100-hour limit if necessary to fly to a destination where the inspection is to be conducted.
 (A) 5 (B) 10
 (C) 15 (D) 20
17. _____ are usually made of eight-sided tool steel bar stock, carefully hardened and tempered.
 (A) Files (B) Hacksaw
 (C) Hand snipes (D) Chisels
18. The zone at the bottom, or base, of the weld is called as _____.
 (A) Root (B) Bead
 (C) Toe (D) Leg
19. When experience does not suggest the point at which the troubleshooting should begin, the technician should consider which technique?
 (A) OSHA communications (B) Troubleshooting with chart
 (C) Divide and conquer technique (D) Intermittent discrepancies

20. _____ is the process of applying a thin layer of filled rod to the surface of the metal.
 (A) Polishing (B) Tinning
 (C) Cleaning (D) Sterilizing

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

- | | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 21. What are the negative effects of ice buildup on an airplane? | 4 | 1 | 1 | 1 |
| 22. Briefly explain the operating procedure and maintenance of hydraulic test rig. | 4 | 1 | 2 | 1 |
| 23. State Murphy's law and its significance in human factors. | 4 | 1 | 3 | 1 |
| 24. Write short notes on TCDS. | 4 | 1 | 4 | 1 |
| 25. Differentiate between soldering and brazing. | 4 | 1 | 5 | 1 |
| 26. Discuss briefly about short-term storage methods of aircraft. | 4 | 1 | 1 | 1 |
| 27. How is operating data of aircraft helpful in troubleshooting process? | 4 | 1 | 5 | 1 |

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

- | | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 28. a. List the tie down requirements and discuss the mooring procedure for security heavy aircraft. | 12 | 2 | 1 | 1 |
| (OR) | | | | |
| b. State the purpose of aircraft cleaning. Describe the cleaning process in detail. | 12 | 2 | 1 | 1 |
| 29. a. Explain the various fire extinguishing agents used in the aircraft maintenance practices. | 12 | 2 | 2 | 1 |
| (OR) | | | | |
| b. What is the need for cabin cooling system in an aircraft? Explain the vapour cycle cooling system in detail. | 12 | 2 | 2 | 1 |
| 30. a. What is shop safety? Explain safety around hazardous materials with appropriate drawings. | 12 | 2 | 3 | 1 |
| (OR) | | | | |
| b. Incidents and accidents attributable to human factors. Justify the statement with an example. | 12 | 2 | 3 | 1 |
| 31. a. Discuss in detail about the various components of a checklist. | 12 | 2 | 4 | 1 |

(OR)