

Register Number:

B.E DEGREE EXAMINATIONS: APRIL 2011

Sixth Semester

AERONAUTICAL ENGINEERING

U07AR601: Aircraft General Engineering and Maintenance Practices

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. What are the handling equipments used in the maintenance of aircraft?
 - a) Jacks are to be checked for serviceability. Proper trestles or stands are required for maintenance work
 - b) Any type jacks can be used on any aircrafts, only weight should be judged as per maintenance manual
 - c) Any type of leveling instruments can be used while jacking and lifting the aircraft
 - d) All the above are correct
2. The aircraft fuelling operation shall cease when a jet engine aircraft manoeuvres so as to bring the rear jet exhaust which:-
 - a) 50 meters of the aircraft
 - b) 43 meters of the fuelling equipment
 - c) 30 meters of the aircraft fuelling equipment
 - d) 35 meters of the aircraft
3. Majority of oxygen systems both for private and commercial aircrafts are
 - a) Demand based flow
 - b) Automatic flow
 - c) Continuous flow
 - d) All the above
4. The cabin pressure is regulated by
 - a) Flotation check valve
 - b) Pressure differential valve
 - c) Positive pressure relief valve
 - d) Out flow valve
5. The colour used in labeling systems are
 - a) Blue, green, yellow and white
 - b) Blue, green, red and white
 - c) Blue, yellow, red and white
 - d) Blue, green, red and yellow
6. The hazardous index number for moderate hazard
 - a) 4
 - b) 3
 - c) 2
 - d) 1
7. "ATA100- chapter 100" is introduced in the aircraft industries to find the
 - a) The items or components and their maintenance procedures are easily available in a big book like maintenance manual

- b) There are many items and materials stored in an approved maintenance store, without ATA- Chapters it would be very difficult to draw items easily from store
 - c) No need for ATA chapters to draw components and materials from stores without any problem, if anyone knows the location
 - d) Answer (a) and (b) are correct
8. For aircraft and engine maintenance and overhaul work carried out, following manuals are required to do the inspection properly. The manuals are
- a) Aircraft and engine maintenance manual, engine overhaul manual, component overhaul manual
 - b) Engine overhaul manual, component overhaul manual flight operation manual
 - c) Aircraft system manual, flight manual and engine maintenance manual
 - d) Engine maintenance manual, engine overhaul manual, component overhaul manual
9. Chisel are used for cutting sheet metal
- a) Cold chisel and hot chisel b) Diamond point chisel
 - c) Cape and round nose chisel d) All are correct
10. A single raised bar on the head of an American bolt indicates
- a) Standard steel bolt b) Aluminium alloy bolt
 - c) Corrosion resistant bolt d) A drilled head bolt.

PART B (10 x 2 = 20 Marks)

11. What is leveling?
12. Write the tie-down procedure for heavy aircraft
13. What are the factors governing the Air-conditioning and pressurization system?
14. What are the precautions to be observed while servicing an oxygen system?
15. What are four classes of chemical agents?
16. What happens when chloride bleach and ammonia are mixed?
17. Define aircraft logs
18. When is it necessary to conduct special inspections?
19. Name any four types of files and their uses
20. Write about Teflon hose and its advantages over other hoses.

PART C (5 x 14 = 70 Marks)

21. a) (i) With a neat sketch, list down the starting procedure of turbojet aircraft. (10)
- (ii) Write short notes on Hot start and hung start. (4)

(OR)

- b) (i) Briefly explain about different type of fire extinguishers used in aviation. (7)
- (ii) Enumerate the towing procedure. (7)

22. a) Draw a suitable diagram and briefly explain about Boeing 727 air-conditioning system.

(OR)

- b) Explain the moving procedure followed for the light aircraft.

- 23. a) (i) List the safety procedure followed during aircraft welding and structure repair. (7)
- (ii) Explain in detail about Material safety data sheet. (7)

(OR)

- b) (i) List the different toxins frequently found in aviation industry. (7)
- (ii) Describe the procedures given by EPA for Disposal and accidental release of hazardous materials. (7)

24. a) Discuss the following

- (i) FAR airworthiness Directives (3)
- (ii) Type certificate data sheet (6)
- (iii) Service bulletins (2)
- (iv) Maintenance manual (3)

(OR)

- b) (i) Prepare a check list for a light aircraft for a daily inspection (7)
- (ii) Describe briefly any two NOT methods used for aircraft inspections. (7)

25. a) Describe the cable swaging procedure and write the advantages of swaged cable over spliced cable.

(OR)

b) Discuss the following

- (i) British system of threads (3)
- (ii) Different types of punches with neat sketches (6)
- (iii) Methods to identify the fluid line fittings (5)
