

## เฉลยแบบทดสอบ AIRCRAFT MAINTENANCE PLANNING

1. Which of the following is **not** a maintenance discipline ?

A. Integrity in all aspects of the maintenance process.

B. All maintenance personnel to comply with all written guidance to ensure required repairs, inspections, and documentation are completed in a safe, timely, and effective manner.

C. Aircraft Availability and Aircraft Readiness.

D. All personnel who fail to maintain maintenance discipline standards will be held accountable.

2. According to the compliance terminology, which of the following statement is true ?

A. Shall, Must, Will: Indicate mandatory requirements.

B. Should: Indicates a preferred method of accomplishment.

C. May: Indicates an acceptable or suggested means of accomplishment.

D. All of the above are true.

3. Given the dock capacity = No. of aircraft input for Phase (PH) inspection / Year =  $(X * Z) / Y$ .

Whereas, X = Aircraft Utilization Rate (Hours / AC / Year); Y = Inspection Interval (Hours / PH inspection); Z = Aircraft Fleet Size (No. of In – Commissioned aircraft).

The Maintenance Planning, Scheduling and Documentation (PS&D) has calculated Dock Capability for 100 hours interval PH Insp. of an aircraft fleet size of 8 with the utilization rate of 50 flying hours / aircraft / month. What is the correct Dock Capability of the fleet ?

A. 46

B. 48

C. 50

D. 52

4. Given the dock capacity = No. of aircraft input for Isochronal (ISO) inspection / Year  
=  $(X * Z) / Y$ .

Whereas, X = Aircraft Utilization Rate (12 Months / AC); Y = Inspection Interval (Months / ISO inspection); Z = Aircraft Fleet Size (No. of In – Commissioned aircraft).

The Maintenance Planning, Scheduling and Documentation (PS&D) has calculated Dock Capability for 3 months interval ISO Insp. of an aircraft fleet size of 12 with the utilization rate of 12 months / aircraft. What is the correct Dock Capability of the fleet ?

- A. 40
- B. 44
- C. 48
- D. 50

5. Given the dock capacity = No. of aircraft input for PDM inspection / Year =  $(X * Z) / Y$ .

Whereas, X = Aircraft Utilization Rate (1 Year / AC); Y = PDM Inspection Interval (Years / PDM inspection); Z = Aircraft Fleet Size (No. of in – commissioned aircraft).

The Maintenance Planning, Scheduling and Documentation (PS&D) has calculated Dock Capability for 3 years interval PDM Insp. of an aircraft fleet size of 18 with the utilization rate of 1 year / aircraft. What is the correct Dock Capability of the fleet ?

- A. 6
- B. 8
- C. 10
- D. 12

6. Given the No. of Aircraft Readiness Forecast for the second wave launching =  $MC (\%) - B/R (\%) + F/R (\%) - A/R (\%)$ .

Whereas, MC (%) = Mission Capable; B/R (%) = Break Rate; F/R (%) = Fixed Rate (fixed within 8 hours after landing) and A/R (%) = Abort Rate.

A fighter fleet of 12 aircraft has an average MC of 70 % with Break Rate of 20 %, Fixed Rate of 70 % and Abort Rate of 5 %. In a surge day exercise, the first wave could launch all 12 a/c without any maintenance ground abort. What is the no. of a/c readiness forecast for the second wave, scheduled to launch within 8 hours after the first wave landed ?

- A. 9.0
- B. 9.5
- C. 9.7
- D. 10.7

7. Given the No. of Aircraft Readiness Forecast for the second wave launching =  $MC (\%) - B/R (\%) + F/R (\%) - A/R (\%)$ .

Whereas, MC (%) = Mission Capable; B/R (%) = Break Rate; F/R (%) = Fixed Rate (fixed within 12 hours after landing) and A/R (%) = Abort Rate.

An air transport fleet of 12 aircraft has an average MC of 75 % with Break Rate of 20 %, Fixed Rate of 60 % and Abort Rate of 5 %. In a surge day exercise, the first wave could launch all 12 a/c without ground abort. What is the no. of a/c readiness forecast for the second wave, scheduled to launch within 12 hours after the first wave landed ?

- A. 9.5
- B. 10.5
- C. 11.0
- D. 11.5

8. Given the Total Landings =  $\text{Total Flying Hours} / \text{Average Flight Duration}$ . The Total Unscheduled Maintenance / Year =  $\text{Total Landings per Year} * \text{Break Rate (B/R \%)}$ .

A fleet of 18 a/c has an average total flying hours of 3,600 hours per year with the average flight duration of 1.2 hours / landing. If the Break Rate (B/R) % is 18 %, the no. of total unscheduled maintenance in 1 year is equal to ..... ?

- A. 500
- B. 520

C. 540

D. 560

9. Given the Total Landings = Total Flying Hours / Average Flight Duration. The Total Unscheduled Maintenance / Year = Total Landings per Year \* Break Rate (B/R %).

A fleet of 12 a/c has an average total flying hours of 4,000 hours per year with the average flight duration of 2.0 hours / landing. If the Break Rate (B/R) % is 20 %, the no. of total unscheduled maintenance in 1 year is equal to ..... ?

A. 400

B. 450

C. 500

D. 550

10. Which of the following statement is true ?

A. Total Maintenance Man Hours = Scheduled MH + Unscheduled MH

B. Scheduled Maintenance Man Hours = Dock Capacity Man Hours

C. Unscheduled Maintenance Man Hours = No. of total Unscheduled Maintenance Man Hours calculated from Break Rate (B/R) %.

D. All of the above are true.

11. The ratio between Scheduled Maintenance man hours and Unscheduled Maintenance man hours is approximately as follows .....

A. A/C Age of around 1.5 years with a normal utilization: 1 hour scheduled generates 0.5 hours of unscheduled ( 1 : 0.5 )

B. Aircraft Age of around 3 years with a normal utilization: 1 hour scheduled generates 1 hour of unscheduled ( 1 : 1 )

C. Aircraft Age of around 5 years with a normal utilization: 1 hour scheduled generates 2 hours of unscheduled ( 1 : 2 )

D. All of the above are true.

12. What is the ratio between Scheduled Maintenance man hours and Unscheduled Maintenance man hours on aging aircraft with more than 5 years in service or aging aircraft ?

A. Depends on Statistic Data.

B. 1 : 10

C. 1 : 12

D. 1 : 15

13. When we consider between military and commercial aircraft maintenance programs, which statement is **not** true ?

A. Both military and commercial a/c maintenance program have similar concepts and objectives.

B. Inspection nomenclatures (names) are different but both are based on calendar (corrosion based) or flying hours (fatigue based) intervals.

C. Military aircraft use MPD while commercial aircraft use T.O. – 6.

D. Heavy maintenance in commercial aircraft is the same as Depot level in military aircraft maintenance.

14. Which of the following formula is correct ?

A.  $\text{Work Days} = \text{Total Man Hours} / (\text{Crew Size} * 1 \text{ Man Day})$

B.  $\text{Work Days} = \text{Total Man Hours} / (\text{Crew Size} * 1 \text{ Man Week})$

C.  $\text{Work Days} = \text{Total Man Hours} / (\text{Crew Size} * 1 \text{ Man Month})$

D.  $\text{Work Days} = \text{Total Man Hours} / (\text{Crew Size} * 1 \text{ Man Year})$

15. If 1 Man Day is equal to 6.9 man hours, what is the man hours for 1 Man Month if there is 22 work days in 1 month ?

A. 151.8 man hours / 1 man month.

B. 154.5 man hours / 1 man month.

C. 160.00 man hours / 1 man month.

D. 162.2 man hours / 1 man month.

16. What kind of maintenance which contain a package of scheduled maintenance tasks that do not require extensive access or downtime ? For example Daily, Transit, Night Stop, Daily Non Flying, & Day Non Flying and the Monthly series.

A. Package Maintenance

B. Line Maintenance

C. Minor Maintenance

D. Major Maintenance

17. Which of the following statement is true ?

A. Short Term Maintenance Planning is scheduled from 1 day to 3 months.

B. Medium Term Maintenance Planning is scheduled from 3 months to 18 months.

C. Long Term Maintenance Planning is scheduled from 18 months to 6 years.

D. All of the above are true.

18. Given 1 year = 209 work days; 1 man day = 6.9 man hours; 1 man year = 1,442 man hours

An aircraft has entered major maintenance C Check which maintenance engineering planners planned for 6,900 total man hours. If the C Check crew size is 10 man daily. What would be the aircraft C Check work days ?

A. 94 work days

B. 100 work days

C. 105 work days

D. 85 work days

19. Regarding short term maintenance plan, which of the following statement is true ?

A. Let the aircraft be operable as long as inspection due date (within 10 % of actual due date).

B. Input aircraft for inspection on Monday.

C. Scheduled Routine Tasks should be completely inspected within one-thirds (1/3) of the aircraft ground time.

D. All of the above are true.

20. When maintenance engineering planners produce a Gantt Chart for short term maintenance plan, what kind of time scale would be used ?

A. Hours

B. Date

C. Month

D. Year

21. When maintenance engineering planners produce a Gantt Chart for medium term maintenance plan, what kind of time scale would be used ?

A. Date

B. Fortnight

C. Month

D. Year

22. When maintenance engineering planners produce a Gantt Chart for long term maintenance plan, what kind of time scale would be used ?

A. Month and Year

B. Month

C. Quarter

D. Fortnight

23. Inaccurate Long Term Planning would create which of the following problems ?

A. Insufficient maintenance slots & operational requirements.

B. Insufficient skilled manpower

C. Insufficient maintenance facilities

D. All of the above are true.

24. Scheduled Routine Tasks should be planned for inspection complete within ..... of total aircraft ground time ?

A. 1 / 2

B. 1 / 3

C. 2 / 3

D. 3 / 4

25. Aircraft reliability monitoring and maintenance findings could bring up to develop the aircraft maintenance program by which means ?

A. Increased scheduled task activity (Task Addition or De-Escalation).

B. Decreased scheduled task activity (Task Deletion or Escalation).

C. Increased or Decreased aircraft maintenance process.

D. Both A and B are correct.

26. When a recurred discrepancy has occurred and the root cause was obviously found that the failure happened before the specified inspection interval in the maintenance program. In this case, the maintenance planners should ..... ?

A. Consider Task Additional or Interval Reduction or De-Escalation

B. Consider Task Additional or Interval Reduction or Escalation.

C. Consider Increasing the aircraft maintenance process.

D. Consider Decreasing the aircraft maintenance process.

27. In order to decide for “Task Interval Increase or Escalation”, what rules are applied ?

A. The escalation amount should not be more than 10% to 15% of the original interval and no NRC (Non Routine Card) is found after at least 3 consecutive inspections interval.

B. The escalation amount should not be more than 10% to 15% of the original interval and no NRC (Non Routine Card) is found after at least 2 consecutive inspections interval.



C. The escalation amount should not be more than 10% of the original interval and no NRC (Non Routine Card) is found after at least 2 consecutive inspections interval.

D. The escalation amount should not be more than 10% of the original interval and no NRC (Non Routine Card) is found after at least 3 consecutive inspections interval.

28. The aircraft OEM's maintenance program has specified a scheduled routine of "500 Hours Insp." at every 500 flying hours. The maintenance planning engineers experienced that the "500 Hours Insp." in the past history has found no findings or no NRC (Non Routine Card). In this case, what is the maximum escalation for the "500 Hours Insp." ?

A. "525 Hours Insp."

B. "550 Hours Insp."

C. "575 Hours Insp."

D. "600 Hours Insp."

29. Task deletion or to delete scheduled maintenance task is not recommended. However a maintenance planning engineer could delete a scheduled maintenance task when ..... ?

A. Modification Service Bulletin has been complied with and the task is not applicable to the aircraft.

B. Retrofit modification has been complied with and the task is not applicable to the aircraft.

C. Installation of components or systems related to the deletion task is not in the existing aircraft configuration.

D. All of the above are true.

30. Normally, when should the aircraft maintenance planning engineers review the aircraft maintenance program ?

A. Every 1 year.

B. Every 2 years.

C. Every 3 years.

D. Every 4 years.

31. Which of the followings is the purpose of aircraft maintenance program review ?

A. Airworthiness of the aircraft.

B. Aircraft Reliability.

C. Economics.

D. All of the above are true.

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