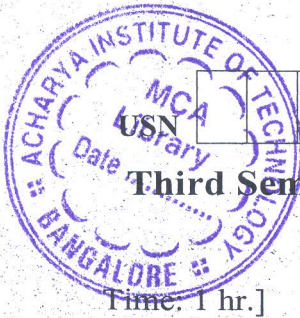


# CBCS SCHEME

BAE358C



--	--	--	--	--	--	--	--	--	--

Question Paper Version : C

## Third Semester B.E./B.Tech. Degree Examination, Dec.2023/Jan.2024 Digitalization in Aeronautics

Time: 1 hr.]

[Max. Marks: 50

### INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

- 
1. Digital representation of a physical object at a certain moment is \_\_\_\_\_
    - a) Digital Thread
    - b) Digital Twin
    - c) Digital product
    - d) None of these
  2. \_\_\_\_\_ refers to the sharing of product life cycle data up and down the extended supply chain,
    - a) Digital thread
    - b) Digital Twin
    - c) IOT
    - d) Generative AI
  3. This technology allows engineers to examine a variety of design options and come up with the optimum product design,
    - a) Additive manufacturing
    - b) 3D printing
    - c) Artificial Intelligence and Generative design
    - d) Internet of things
  4. The benefit of Aerospace engineering digitalization is,
    - a) Reducing production costs
    - b) Improving the quality of final product
    - c) Shortening the product development time
    - d) All of these
  5. The following are the challenges of Aeronautical Engineering Digitization,
    - a) High cost
    - b) Lack of digital talent
    - c) Resistance to change
    - d) All of these
  6. Possible solutions to resistance to change are,
    - a) Develop own solution to overcome resistance
    - b) Facilitate training of employees
    - c) Both (a) and (b)
    - d) None of these



19. What are the electrical components of a smart factory?  
a) Smart machines  
b) People at work  
c) Trained personnel  
d) All of these
20. What are the applications of AI in Airbus?  
a) Improve the productivity of the manufacturing process.  
b) Improve the amount of raw materials required  
c) Decrease the cost of per unit product  
d) Minimize the time required for production
21. IIOT can be used in manufacturing industries to understand when machine needs servicing which \_\_\_\_\_ downtime.  
a) Reduces  
b) Increases  
c) Remains same  
d) Cannot be determined
22. The D-Check is heavy maintenance connected with deep aircraft.  
a) Disassembly  
b) Structure inspection  
c) Anticorrosion Inspection  
d) All of these
23. What are the essential components of a smart factory?  
a) Smart machines  
b) People at work  
c) Trained personnel  
d) All of these
24. Which is/are of the automation pyramid of a smart factory?  
a) Control  
b) ERP  
c) Manufacturing Execution system  
d) All of these
25. Flipkart is looking at robotics to improve efficiency in,  
a) Production  
b) Delivery  
c) Warehouses  
d) None of these
26. SCADA is the acronym of,  
a) Supervision Control and Data Acquisition  
b) Supervision and Control of Data Acuire  
c) Supervisory Control and Data Acquisition  
d) None of these
27. PLC is abbreviated as,  
a) Performance Logic Computer  
b) Performance Logic Controller  
c) Programmable Logic Computer  
d) Programmable Logic Controller
28. Why do we need Industry 4.0?  
a) Detecting machine failure  
b) Preventing machine failure  
c) Improving safety  
d) All of these
29. ILS stands for,  
a) Instrument Landing System  
b) Intelligent Landing System  
c) Inner Landing System  
d) None of these
30. CPS refers to,  
a) Centre Physical Systems  
b) Cyber Physical System  
c) Center Portable Systems  
d) None of these

31. Aircraft maintenance is divided into three tiers :
- a) Line maintenance
  - b) Base maintenance
  - c) Depot maintenance
  - d) All of these
32. SB stands for \_\_\_\_\_,
- a) Service Bulletins
  - b) Short Bulletins
  - c) Service Basics
  - d) Short Basics
33. AMM stands for \_\_\_\_\_,
- a) Aircraft Manual and Maintenance
  - b) Aircraft Minimum Maintenance
  - c) Aircraft Maintenance Manual
  - d) None of these
34. Maintenance Interval most common in old aircraft is,
- a) On-condition
  - b) Hard time
  - c) Condition monitoring
  - d) None of these
35. PIC stands for \_\_\_\_\_,
- a) Pilot in command
  - b) Part In Control
  - c) Pilot in Control
  - d) Part in Command
36. The whole design philosophy of an aircraft is termed as \_\_\_\_\_,
- a) Anatomy
  - b) Design of Evaluation
  - c) Design wheel
  - d) Sizing
37. What is meant by Lofting?
- a) Conceptual design
  - b) Mathematical modeling of skin
  - c) Specification and requirement
  - d) None of these
38. Initial phase of an aircraft design is,
- a) Conceptual design
  - b) Preliminary design
  - c) Detail design
  - d) Sizing
39. What is FBW?
- a) Fly back wire system
  - b) Fly by wire system
  - c) Flight Board wire
  - d) None of these
40. Which of the following is not a technology in Industry 4.0?
- a) Digital Twin
  - b) Digital Thread
  - c) Internet of Things
  - d) Block chain
41. How does Rolls-Royce improve reliability in aircraft engines?
- a) Predictive maintenance
  - b) Prescriptive analysis
  - c) Deployment of valuable devices
  - d) All of these
42. Which of the mentioned resources is not managed by a Company's KRP system?
- a) Wages of workers
  - b) Stock of material
  - c) Credit balance of the company
  - d) Passport data of CEO
43. In IIOT applications, a pressure sensor is used to measure,
- a) The atmosphere pressure in different geographical location
  - b) The pressure in hydraulic system
  - c) Both (a) and (b)
  - d) None of these

44. Find the alternate name for rapid proto typing,  
a) Additive manufacturing                      b) Layer manufacturing  
c) Direct CAD manufacturing                  d) All of these
45. In India, which organization provides approval for commercial aircrafts?  
a) EASA                      b) FAM                      c) DGCA                      d) CASA
46. MRO stands for \_\_\_\_\_  
a) Man Repair and Overhaul                      b) Maintenance Repair and Overhaul  
c) Maximum Repair and Overhaul                  d) Minimum Repair and Overhaul
47. OEM stands for \_\_\_\_\_  
a) Overall Equipment Maintenance                  b) Overhaul Equipment Manual  
c) Original Equipment Manufacturer                  d) None of these
48. Which of the following issue Airworthiness Directives of USA?  
a) CASA                      b) DGCA                      c) ICAO                      d) FAA
49. The main goal of maintenance is to ensure,  
a) Airworthiness                      b) Safety  
c) Operation                      d) Cost
50. MPD stands for \_\_\_\_\_  
a) Maintenance Planning Document                  b) Manual Planning Document  
c) Minimum Planning Document                      d) None of these

\*\*\*\*\*