INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad - 500 043

Aeronautical Engineering

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	**CAD/CIM**
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Branch	:	**Aeronautical Engineering**
Section	:	**A & B**
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Course Faculty	:	**Dr. D. Govardhan, Professor, AE**

OBJECTIVES:

I	Understand the basics of computer aided designing, computer aided manufacturing and computer integrated manufacturing.
II	To study about group technology, computer aided process planning, material requirement planning (MRP) Enterprise resource planning (ERP).
III	Gain knowledge about shop floor control and Flexible manufacturing systems (F.M.S).
IV	Emphasizes the integration of manufacturing enterprise using computer integrated manufacturing (CIM) technologies.

DEFINITIONS AND TERMINOLOGY QUESTION BANK

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
UNIT-I INTRODUCTION						
1	What is CAD and CAM?	CAD/CAM stands for computer-aided design & computer-aided manufacturing. CAD/CAM software is used to design and manufacture prototypes, finished products and production runs.	Remember	CLO1	CO1	AAE521.01
2	What is AutoCAD introduction?	AutoCAD is a commercial computer-aided design (CAD) and drafting software application. Developed and marketed by Autodesk, AutoCAD was first as a desktop app running on microcomputers with internal graphics controllers.	Remember	CLO4	CO1	AAE521.04
3	What is the use of CAM?	Computer Aided Manufacturing (CAM) is the use of software and computer-controlled machinery to automate a manufacturing process. CAM Software that tells a machine how to make a product by generating tool paths.	Remember	CLO4	CO1	AAE521.04

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
4	What are the examples of CAD?	• Autodesk AutoCAD: 3D CAD software that is used in construction, civil infrastructure, building designing, manufacturing planning and product designing. • Bentley Micro Station: A visual modeling solution designed for owner-operators, architects, constructors, and engineers.	Remember	CLO2	CO1	AAE521.02
5	What is CAD and its application?	Computer-aided design (CAD) is the use of computers (or workstations) to aid in the creation, modification, analysis, or optimization of a design. CAD may be used to design curves and figures in two-dimensional (2D) space or curves, surfaces, and solids in three-dimensional (3D) space.	Remember	CLO4	CO1	AAE521.04
6	What are CAM tools?	CAM-TOOL is a five-axis-control-machining-center compatible, high-end CAD/CAM system with a hybrid CAM engine (Polygon and Surface Calculation). In addition, CAM TOOL provides a superior surface finish, longer tool life, reduced machining time and finishing time.	Remember	CLO4	CO1	AAE521.04
7	What are the benefits of CAD CAM?	There are many advantages of using CAD/CAM in the textile industry, including the ability to more quickly and efficiently make changes to design drafts, easy transfer from design to production via digital files, faster cutting and assembling of garments, more accurate cutting of garment segments.	Remember	CLO4	CO1	AAE521.04
8	What is the product development life cycle?	The Product Life Cycle is the set of commonly identified stages in the life of commercial products. The stages which a product cycles through during its lifespan are: Development, Introduction, Growth, Maturity and Decline. The Product development stage is the first part of the Product Life Cycle.	Remember	CLO2	CO1	AAE521.02
9	What are the important hardware systems used for CAD?	• System Unit. • Central Processing Unit (CPU) • Memory. • Hard Disk, Floppy Disk, CD-ROM. • External Storage Devices. • The Monitor. • Printers and Plotters. • Digitizer, Puck and Mouse.	Remember	CLO2	CO1	AAE521.02
10	What are the storage devices in CAD?	The storage mediums used can include: magnetic discs, magnetic tape, floppy discs, external hard- drives etc. The hardware used in a CAD system includes: design workstations; digital computers, output devices, such as plotters and printers and various secondary storage.	Remember	CLO4	CO1	AAE521.04

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		devices.				
11	What are the functions of input and output devices?	An input device sends information to a computer system for processing, and an output device reproduces or displays the results of that processing. Input devices only allow for input of data to a computer and output devices only receive the output of data from another device.	Remember	CLO2	CO1	AAE521.02
12	What are the major application areas of graphics?	Applications of computer graphics are classified into four main areas: • Display of information. • Design. • User interfaces. • Simulation.	Remember	CLO3	CO1	AAE521.03
13	What do raster graphics consist of?	Raster graphics has origins in television technology, with images constructed much like the pictures on a television screen. A raster graphic is made up of a collection of tiny, uniformly sized pixels, which are arranged in a two-dimensional grid made up of columns and rows.	Remember	CLO2	CO1	AAE521.02
14	What are the 4 types of transformations?	The four types of transformations which you will encounter during this topic are: • Rotation. • Reflection. • Translation. • Enlargement/Re-sizing.	Remember	CLO4	CO1	AAE521.04
15	What is translation computer graphics?	Translation is one of the simplest transformations. A translation moves all points of an object a fixed distance in a specified direction. It can also be expressed in terms of two frames by expressing the coordinate system of object in terms of translated frames.	Remember	CLO3	CO1	AAE521.03
16	What are the types of clipping?	There are four types of possible clipping processes, depending on which part of the word undergoes structural changes: back clipping (temperature - temp, rhino - rhinoceros, gym-gymnasium), fore-clipping (helicopter-copter, telephone - phone, plane, aeroplane), mixed clipping (influenza-flu, refrigerator-fridge).	Remember	CLO2	CO1	AAE521.02
17	What do you mean by hidden surface removal?	In 3D computer graphics, shown-surface determination (also known as hidden-surface removal (HSR), occlusion culling (OC) or visible-surface determination (VSD) is the process used to determine which surfaces and parts of surfaces are not visible from a certain viewpoint.	Remember	CLO4	CO1	AAE521.04
18	What is concurrent manufacturing?	Concurrent manufacturing, also known as simultaneous engineering, is a method of designing and developing products, in which the different stages run simultaneously, rather than consecutively.	Remember	CLO2	CO1	AAE521.02

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		It decreases product development time and also the time to market, leading to improved productivity and reduced costs.				
19	What is variant process planning?	In generative process planning, process plans are generated by means of decision logic, formulas, technology algorithms, and geometry based data to perform uniquely processing decisions. Main aim is to convert a part from raw material to finished state.	Remember	CLO2	CO1	AAE521.02
20	What is translation of an object?	Translation is a term used in geometry to describe a function that moves an object a certain distance. The object is not altered in any other way. It is not rotated, reflected or re-sized. In a translation, every point of the object must be moved in the same direction and for the same distance.	Remember	CLO4	CO1	AAE521.04
UNIT - II GEOMETRICAL MODELLING						
1	What are the requirements of geometric modeling?	The Following are the different types of Geometric Modeling system. They are: • Solid modeling. • Wire frame modeling. • Solid modeling.	Remember	CLO5	CO2	AAE521.05
2	What is wireframe in CAD?	In CAD, a technique for representing 3D objects, in which all surfaces are visibly outlined in lines, including the opposite sides and all internal components that are normally hidden from view. Compared to surface and solid modeling, wireframe modeling is the least complex method for representing 3D images.	Remember	CLO6	CO2	AAE521.06
3	What is surface Modelling in CAD?	Surface modeling is a more complex method for representing objects than wireframe modeling, but not as sophisticated as solid modeling. Surface modeling is widely used in CAD (computer-aided design) for illustrations and architectural renderings. It is also used in 3D animation for games and other presentations	Remember	CLO7	CO2	AAE521.07
4	What are different types of curves?	Types of Horizontal Curve: • Simple Curve: A simple arc provided in the road to impose a curve between the two straight lines. • Compound Curve: Combination of two simple curves combined together to curve in the same direction. • Reverse Curve. • Transition or Spiral Curve. • Sag Curve. • Crest Curve/Summit Curve.	Remember	CLO7	CO2	AAE521.07

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
5	What is synthetic curve?	A parameterized curve is a vector representation of a curve that lies in 2 or 3 dimensional space. A curve itself is a 1 dimensional object, and it therefore only needs one parameter for its representation.	Remember	CLO6	CO2	AAE521.06
6	What is a cubic Bezier curve?	Bezier curves are widely used in computer graphics to model smooth curves. As the curve is completely contained in the convex hull of its control points, the points can be graphically displayed and used to manipulate the curve intuitively. Quadratic and cubic Bezier curves are most common.	Remember	CLO8	CO2	AAE521.08
7	Why is a wireframe model used?	A wireframe model represents the shape of a solid object with its characteristic lines and points. Wireframe models are used to define complex solid objects. The designer makes a wireframe model of a solid object, and then the CAD operator reconstructs the object, including detailed analysis.	Remember	CLO6	CO2	AAE521.06
8	What is the difference between Creo and SolidWorks?	The Creo is predominantly aimed at the more high-end CAD market, whilst Solid Works is more at the mid-level scale. The SolidWorks is the product of Dassault, sees its simplicity both in user interface and its learning curve	Remember	CLO6	CO2	AAE521.06
9	What is difference between AutoCAD and Catia?	In AutoCAD we can do both 2D and 3D drawing while in Catia 3D work is done. CAD is a software design tool used in construction and manufacturing to produce detailed drawings.	Remember	CLO5	CO2	AAE521.05
10	What are the properties of Bezier curve?	Bezier curve follow the shape of the control polygon, which consists of the segments joining the control points. They always pass through the first and last control points. They are contained in the convex hull of their defining control points.	Remember	CLO5	CO2	AAE521.05
11	What is the difference between solid Modelling and surface Modelling?	The area of surface and solid modeling deals with shape design and representation of physical objects. Whereas, a surface modeler gives only a geometrical description of the object boundary without any topological information.	Remember	CLO6	CO2	AAE521.06
12	What are the advantages of solid modeling?	The solid modeling CAD software helps the designer to see the designed object as if it were the real manufactured product. It can be seen from various directions and in various views. This helps the designer to be sure that the object looks exactly as they wanted it to be	Remember	CLO7	CO2	AAE521.07
13	What is solid Modelling in CAD?	Solid modeling (or modeling) is a consistent set of principles for mathematical and computer modeling of three-dimensional solids. Solid modeling is distinguished from related areas of geometric modeling and computer graphics by its emphasis on physical	Remember	CLO6	CO2	AAE521.06

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		fidelity.				
14	What is Topology CAD?	A CAD model consists of different types of topological entities such as solids, faces, edges or vertices.	Remember	CLO6	CO2	AAE521.06
15	What is the use of Solid Works software	Solid Works is a solid modeling computer-aided design (CAD) and computer-aided engineering (CAE) computer program that runs on Microsoft Windows.	Remember	CLO7	CO2	AAE521.07
16	What is wireframe geometry?	Wireframe geometry is the geometry that helps you create features when needed. Creating this geometry is a simple operation you can perform at any time.	Remember	CLO6	CO2	AAE521.06
17	What is geometric Modelling in CAD?	Computer geometric modeling is the mathematical representation of an object's geometry using software. A geometric model contains description of the modeled object's shape.	Remember	CLO7	CO2	AAE521.07
18	How many types of major wire frame geometrical Modelling techniques	There are three types of wire frame geometric modeling: 2D, 2.1/2D and 3D.	Remember	CLO7	CO2	AAE521.07
19	What is the purpose of AutoCAD software?	AutoCAD is used to create the computer aided designs or software applications including drafting. AutoCAD develops the application in both the 2D and 3D formats and provide the information to the application. AutoCAD provides tools to design the software's used in the industry, architectures and project management	Remember	CLO8	CO2	AAE521.08
UNIT-III GROUP TECHNOLGY COMPUTER AIDED PROCESS PLANNING						
1	What is meant by Group Technology?	Group technology or GT is a manufacturing technique in which parts having similarities in geometry, manufacturing process and/or functions are manufactured in one location using a small number of machines or processes.	Remember	CLO9	CO3	AAE521.09
2	What is group technology layout explain it?	Group technology is the technique of identifying and bringing together related or similar parts in a production process in order to utilize the inherent economy of flow production methods.	Remember	CLO9	CO3	AAE521.09
3	What is meant by part family?	It is a collection of parts which are similar either because of design attitude or manufacturing attitudes. The parts within the family are different but their similarities are close enough to put them under the same part family.	Remember	CLO10	CO3	AAE521.10
4	What is composite part concept?	A composite part is formed by merging the primitives of all the parts of a part family. Thus, the composite is a single hypothetical part that can be completely processed in a manufacturing cell/group.	Understand	CLO10	CO3	AAE521.10
5	How many types of plant	• Plant Layout • Process Layout and	Remember	CLO10	CO3	AAE521.10

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
	layouts?	• Product Layout				
6	What are the Objectives of plant layout	The primary objective of plant layout is to maximize production at minimum cost. The layout should be designed in such a way that it is flexible to change according to new processes and production techniques.	Remember	CLO11	CO3	AAE521.11
7	What is CAPP system?	Computer-aided process planning (CAPP) is the use of computer technology to aid in the process planning of a part or product, in manufacturing. CAPP is the link between CAD and CAM in that it provides for the planning of the process to be used in producing a designed part.	Remember	CLO9	CO3	AAE521.09
8	What is process of planning?	Planning is the process of thinking about the activities required to achieve a desired goal. It is the first and foremost activity to achieve desired results. It involves the creation and maintenance of a plan, such as psychological aspects that require conceptual skills.	Remember	CLO9	CO3	AAE521.09
9	What are the types of plant layout?	There are four Main Types of Plant Layout • Product or Line Layout. • Process or Functional Layout. • Fixed Position Layout. • Combination Type of Layout.	Understand	CLO12	CO3	AAE521.12
10	What is Retrieval CAPP system?	Generative CAPP systems are an alternative to retrieval systems. Rather than retrieving and editing existing plans from a database, a generative system creates the process plan using systematic procedures that might be applied by a human planner.	Remember	CLO11	CO3	AAE521.11
11	What is traditional process planning?	The manufacturing process planning involves determining proper sequence of manufacturing operations to be carried out so that part can be produced in the least possible time making the optimum use of the available resources.	Remember	CLO9	CO3	AAE521.09
12	What is variant process planning?	Process plans are generated by means of decision logic, formulas, technology algorithms, and geometry based data to perform uniquely processing decisions. Main aim is to convert a part form raw material to finished state.	Remember	CLO12	CO3	AAE521.12
13	How do you create a process plan?	The steps in the planning process are: • Develop objectives. • Develop tasks to meet those objectives. • Determine resources needed to implement tasks. • Create a timeline. • Determine tracking and assessment method. • Finalize plan. • Distribute to all involved in the	Remember	CLO11	CO3	AAE521.11

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		process.				
14	What is the objective of planning?	The most fundamental objective of planning is to alter the pattern of resources use and, if possible, to intensify such use in such a fashion as to achieve certain socially desirable goals.	Remember	CLO9	CO3	AAE521.09
15	What is automated process planning?	The need for performing process planning in an automated manufacturing environment is clear. Feature refinement, a form of geometric reasoning, was developed to interface between the design and other planning functions. A knowledge-based approach is taken to make decisions while planning.	Remember	CLO11	CO3	AAE521.11
16	What is CAM software?	Computer-aided manufacturing (CAM) is an application technology that uses computer software and machinery to facilitate and automate manufacturing processes. CAM is the successor of computer-aided engineering (CAE) and is often used in tandem with computer-aided design (CAD).	Remember	CLO11	CO3	AAE521.11
17	What is the production planning process?	Production Planning is the process of aligning demand with manufacturing capacity to create production and procurement schedules for finished products and component materials. It tracks and makes a record of the manufacturing process flows, for example, the planned and actual costs.	Remember	CLO10	CO3	AAE521.10
18	What are the functions of process planning?	The chief of process planning is to augment and modernize the business methods of a company. Process planning is planned to renovate design specification into manufacturing instructions and to make products within the function and quality specification at the least possible costs.	Remember	CLO10	CO3	AAE521.10
19	What are the advantages of plant layout?	The advantages of a good layout can be studied from the stand point of the worker, labor cost, other manufacturing costs, production control, supervision, and capital investment.	Remember	CLO12	CO3	AAE521.12
UNIT-IV COMPUTER AIDED PLANNING AND CONTROL, SHOP FLOOR CONTROL AND INTRODUCTION TO FMS						
1	What is the meaning of Production Planning and control?	Production planning and control may be defined as the direction as the direction and coordination of a firm's material and physical facilities towards the attainment of pre specified Production of goods, with production efficiency.	Remember	CLO13	CO4	AAE521.13
2	What are major Activities of production control?	• Shop floor control • Inventory control • Manufacturing resource planning (MRP II) and • Just-in-time manufacturing systems.	Remember	CLO14	CO4	AAE521.14

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
3	Explain the main objects of Production planning	• Deciding which products to make, how many of each, and when they should be completed. • Planning the manpower and equipment resources needed to accomplish the production plan. • Scheduling the production and delivery of the parts and products	Remember	CLO14	CO4	AAE521.14
4	What is the function of MRP	It is a planning technique. It translates the master production schedule (MPS) of end products into a detailed schedule for the raw materials and parts used in those end products.	Remember	CLO13	CO4	AAE521.13
5	What is the importance of BOM in PPC?	The bill of materials (BOM) designates what items and how many of each are used to make up a specified final product.	Remember	CLO14	CO4	AAE521.14
6	What are the Benefits of MRP?	The benefits of implementing MRP system are: • Reduced inventory levels. • Better Production scheduling • Reduced production lead time. • Better machine utilization. • Improved product quality.	Remember	CLO14	CO4	AAE521.14
7	Explain the term Material requirements planning (MRP).	An MRP system is intended to simultaneously meet three objectives: • Ensure materials are available for production and products are available for delivery to customers. • Maintain the lowest possible material and product levels in store • Plan manufacturing activities, delivery schedules and purchasing activities.	Remember	CLO16	CO4	AAE521.16
8	Define the term Inventory Control.	It is the supervision of supply, storage and accessibility of items in order to ensure an adequate supply without excessive oversupply. It can also be referred as internal control - an accounting procedure or system designed to promote efficiency or assure the implementation of a policy or safeguard assets or avoid fraud and error etc.	Remember	CLO16	CO4	AAE521.16
9	What are the functions of Inventory control?	• Aims to reduce overhead cost without hurting sales. • In the field of loss prevention, systems designed to introduce technical barriers to shoplifting.	Remember	CLO15	CO4	AAE521.15
10	What is Inventory Management?	Inventory management is a science primarily about specifying the shape and percentage of stocked goods. It is required at different locations within a facility or within many locations of a supply network to precede the regular and planned course of production and stock of materials.	Remember	CLO14	CO4	AAE521.14

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
11	What is shop floor control in ERP?	Shop Floor Control implements the plan created by APS (Advance Planning and Scheduling). It issues work orders to individual work centers, requests raw materials from Inventory and, when the finished items are complete, issues stocking requests to Inventory for them.	Remember	CLO15	CO4	AAE521.15
12	What do you mean by FMS?	A flexible manufacturing system (FMS) is a manufacturing system in which there is some amount of flexibility that allows the system to react in case of changes, whether predicted or unpredicted.	Remember	CLO14	CO4	AAE521.14
13	What are the benefits of FMS?	Advantages associated with FMS include reduced manufacturing cost, increased labor productivity, increased machine efficiency, improved product quality, increased system reliability, reduced parts inventory, shorter lead times, and increased production rate.	Remember	CLO16	CO4	AAE521.16
14	What are the major elements of FMS?	The basic components of an FMS are: workstations, material handling and storage systems, computer control system, and the personnel that manage and operate the system.	Remember	CLO16	CO4	AAE521.16
15	What are the types of FMS?	Four specific types of FMS are defined: • Single flexible machine (SFM) • Flexible manufacturing cell (FMC) • Multi-machine flexible manufacturing system (MMFMS) and • Multi-cell flexible manufacturing system (MCFMS).	Remember	CLO14	CO4	AAE521.14
16	What is FMS software?	FMS (Financial Management) - Southern Software. Financial Management System. Modules FMS consists of 10 different modules that the user can configure to meet their unique needs.	Remember	CLO17	CO4	AAE521.17
17	What is material requirement planning with example?	Material requirements planning (MRP) is a system for calculating the materials and components needed to manufacture a product. It consists of three primary steps: taking inventory of the materials and components on hand, identifying which additional ones are needed and then scheduling their production or purchase.	Remember	CLO14	CO4	AAE521.14
18	What is shop floor in manufacturing?	The area in a manufacturing facility where assembly or production is carried out, either by an automated system or by workers or a combination of both. The shop floor may include equipment, inventory and storage areas.	Remember	CLO17	CO4	AAE521.17
19	What is the meaning of Inventory?	Inventory or stock refers to the goods and materials that a business holds for the ultimate purpose of resale (or repair).	Remember	CLO14	CO4	AAE521.14

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
UNIT-V COMPUTER AIDED PLANNING AND CONTROL AND COMPUTER MONITORING						
1	What is control operations management?	Operations management focuses on carefully managing the processes to produce and distribute products and services. Related activities include managing purchases, inventory control, quality control, storage, logistics and evaluations of processes. A great deal of focus is on efficiency and effectiveness of processes.	Remember	CLO18	CO5	AAE521.18
2	How CAD CAM helps in lean manufacturing?	Lean as the toolset that assists in the ID and continuous elimination of waste. Eliminating waste as quality improves while cutting production time and costs improve overall output and profitability.	Remember	CLO18	CO5	AAE521.18
3	What is lean and agile manufacturing?	Lean and agile manufacturing refer to modern advances in production technology and manufacturing methodology that have led to reduced costs, quicker response time and improved customer service in manufacturing companies.	Remember	CLO19	CO5	AAE521.19
4	What is Agile Lean framework?	Lean means creating more value for customers with fewer resources. A lean organization understands customer value and focuses its key processes to continuously increase it.	Remember	CLO19	CO5	AAE521.19
5	What does lean manufacturing mean?	Lean manufacturing is a methodology that focuses on minimizing waste within manufacturing systems while simultaneously maximizing productivity. Lean manufacturing is based on a number of specific principles, such as Kaizen, or continuous improvement.	Remember	CLO19	CO5	AAE521.19
6	What is Lean methodology?	Lean is a business methodology that promotes the flow of value to the customer through two guiding tenets: Continuous improvement and respect for people. .	Remember	CLO18	CO5	AAE521.18
7	What are the key characteristics of a lean system?	Characteristics of a Lean Organization • Focused-Lean organizations are obsessed with customer value. • Aligned- member of the team understands the mission, values, and strategic priorities of the business. • Humble. • Collaborative. • Tenacious. • Engaged. • Methodological. • Proactive.	Remember	CLO18	CO5	AAE521.18
8	What are the benefits of a lean environment?	• Manage Team/Process Complexity. • More Efficient Business Processes. • Better Management of Changing Priorities.	Remember	CLO20	CO5	AAE521.20

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		• Better Project Visibility at the Team Level. • Increased Team Productivity. • Reduced Lead Time. • Increased Team Morale. • Improved Visibility to Stakeholders.				
9	What are the different types in Wastes of Lean?	The seven types in waste of lean are Transportation, Inventory, Motion, Waiting, Overproduction, Over processing and Defects.	Remember	CLO19	CO5	AAE521.19
10	What is the process control strategy?	In response to assessment of data trends over time and other knowledge gained over the lifecycle. Process verification is one approach that enables a company to monitor the process and make adjustments to the process and/or the control	Remember	CLO18	CO5	AAE521.18
11	What are the elements of process control?	All process control configurations, whether manual, automatic, or computer-based, have three essential elements: a measurement (often several); a control strategy (embedded in a controller); a final element for implementing the control action (a valve, heater or other variable input).	Remember	CLO18	CO5	AAE521.18
12	What is process dynamic and control?	A process is a dynamical system, whose behavior changes over time. Control systems are needed to handle such changes in the process. Thus, it is important to understand the process dynamics when a control system is designed. Mathematically, the process dynamics can be described by differential equations	Remember	CLO20	CO5	AAE521.20
13	What are the types of strategic control?	The four types of strategic control are premise control, implementation control, special alert control and strategic surveillance. Each one provides a different perspective and method of analysis to maximize the effectiveness of your business strategy	Remember	CLO19	CO5	AAE521.19
14	What are the 4 steps in the control process?	The four steps in the control process are: • Establishing Standards and Methods for Measuring Performance • Measuring the Performance • Determination of Whether the Performance Matches the Standard and • Taking Corrective Action.	Remember	CLO18	CO5	AAE521.18
15	What is feedback control?	Feedback control is a process that managers can use to evaluate how effectively their teams meet the stated goals at the end of a production process. Feedback control evaluates the team's progress by comparing the output the team was planning on producing to what was	Remember	CLO18	CO5	AAE521.18

S.No	QUESTION	ANSWER	Blooms Level	CLO	CO	CLO Code
		actually produced.				
16	What are the four main components of a control system?	There are four basic elements of a typical motion control system. These are the controller, amplifier, actuator, and feedback. The complexity of each of these elements will vary depending on the types of applications for which they are designed and built.	Remember	CLO20	CO5	AAE521.20
17	What are the main components of a feedback control system?	A feedback control system consists of five basic components: • Input • Process being controlled • Output • Sensing elements and • Controller and actuating devices.	Remember	CLO18	CO5	AAE521.18
18	How does direct digital control work?	Direct digital control is the automated control of a condition or process by a digital device (computer). All instrumentation is gathered by various analog and digital converters which use the network to transport these signals to the central controller.	Remember	CLO21	CO5	AAE521.21
19	What is the difference between PLC and DDC?	A DDC (Direct Digital Controller) is similar in function to a small PLC. A PLC (Programmable Logic Controller) is a much more versatile control system. It's capable of handling digital and analog inputs/outputs and is used for control of complicated machinery, as well as entire process control systems	Remember	CLO18	CO5	AAE521.18
20	What is a control in a process?	Process control is an engineering mechanism that uses continuous monitoring of an industrial process operational variables (e.g., temperature, pressure, chemical content) and algorithms and then uses that information to adjust variables to reach product output specifications and objectives.	Remember	CLO21	CO5	AAE521.21

Signature of the Faculty **Signature of HOD**