Q=QUESTION	question_description
A=ANSWER	answer_description
Q	The full form of SAVE is
A	Society of African Value Engineers
A	Society of American Value Engineers
A	Society of Australian Value Engineers
A	Society of Asian Value Engineers
	The application of creative techniques to increase the value and functions
Q	of an already existing product is known as
A	Value engineering
A	Value analysis
A	Value approach
A	Value stream mapping
Q	Specific technical knowledge is required in
A	Value engineering
A	Value analysis
A	Value approach
A	Value stream mapping
Q	_____ is a preventive process
A	Value engineering
A	Value analysis
A	Value approach
A	Value stream mapping
Q	Value is defined as the ratio of
A	Performance/Materials
A	Output/Input
A	Performance/Cost
A	Cost/Performance
Q	Value engineering and Value analysis can reduce cost by
A	10% to 20%
A	5% to 15%
A	5% to 40%
A	80%
Q	Value analysis requires
A	entire knowledge of a team
A	specific technical knowledge
A	detailed documentation of a product
A	partial knowledge of a team
Q	_____ is a remedial process
A	Value engineering
A	Value analysis
A	Value approach
A	Value stream mapping
Q	The price paid by the buyer is
A	Cost value
A	Esteem value

A	Use value
A	Exchange value
Q	Value is the cost directly proportional to
A	function
A	product material
A	price
A	economy
Q	Work study is done with the help of ---
A	process chart
A	material handling
A	stop watch
A	sampling
Q	The correct order of procedure in method study is
A	Select – Record – Examine – Develop – Define – Install – Maintain
A	Select – Define – Examine – Develop – Record – Install – Maintain
A	Select – Record – Develop – Examine – Define – Install – Maintain
A	Select – Record – Examine – Define – Develop – Install – Maintain
Q	The standard time for a job is ----
A	Total work content
A	Base time + relaxation time
A	Total work content + basic time
A	Total work content + delay contingency allowance
Q	Time study is -------
A	The appraisal, in terms of time, of the value of work involving human effort
A	Machine setting time
A	Time taken by workers to do a job
A	Method of fixing time for workers
Q	Per cent idle time for men or machines is found by
A	Work sampling
A	Time study
A	Method study
A	work study
Q	Choose the wrong statement Time study is used to
A	determine overhead expenses
A	provide a basis for setting piece prices or incentive wages
A	determine standard costs
A	determine the capability of an operator to handle the number of machines
Q	Work sampling observations are taken on the basis of
A	Detailed calculations
A	Convenience
A	Table of random numbers
A	Past experience
Q	What does symbol 'D' imply in work study
A	Inspection

A	Transport
A	Delay temporary storage
A	Permanent storage
Q	Travel charts provide ------
A	An idea of the flow of materials at various stages
A	A compact estimate of the handling which must be done between various work sections
A	The information for changes required in rearranging material handling equipment
A	An approximate estimate of the handling which must be done at a particular station
Q	The objective of time study is to determine the time required to complete a job by
A	Fast worker
A	Average worker
A	slow worker
A	new entrant
Q	A milk powder tin is being weighed as it is filled is an example of
A	Operation cum transportation
A	Operation cum inspection
A	Transportation cum inspection
A	Transportation cum Storage
Q	Work study comprises following main techniques
A	method study and work measurement
A	method study and time study
A	time study and work measurement
A	method study and job evaluation
Q	MTM does NOT help in
A	Decrease labour cost
A	Guiding product design
A	Develop effective tools
A	Increase manpower
Q	What is the symbol of HOLD+MOVE
A	Circle
A	Line
A	Circle + under-line
A	Circle + top-line
Q	1 TMU is
A	36 milliseconds
A	3.6 milliseconds
A	0.0001 hours
A	0.001 hours
Q	For POSITION therblig colour is
A	Red

A	Brown
A	Black
A	Blue
Q	A graphic representation of work performed by left and right hand in accomplishing
A	SIMO chart
A	Operation chart
A	Gantt Chart
A	Process Chart.
Q	The science which deals with the systematic investigation of the existing method of doing a job in order to develop and install an any rapid , efficient and effective procedure and install an easy rapid ,efficient and effective procedure for doing the same job and at lower cost, is known as
A	Motion study
A	Method study
A	Time study
A	Micro-motion study
Q	The outline (operation) process chart, the following symbols are used
A	operation and inspection
A	operation and transportation
A	inspection and transportation
A	operation and storage
Q	In process charts, the symbol used for Transport is
A	Circle
A	Square
A	Arrow
A	Triangle
Q	An Agile is
A	A software development process
A	An adjective
A	A mindset
A	A set of best offer
Q	Velocity:
A	Is measured in task hours
A	Is a measure of a teams rate of progress
A	Is a metric used to compare team performance
A	Is not affected when a change in scope is made
Q	The most important defect metric we want to learn from is:
A	Defects found during a sprint
A	Defects found during the hardening sprint
A	Defects found in production
A	The age of all defects per product

Q	Which of the following practices emphasize building releasable products in short time frames?
A	Release planning
A	Sprint planning
A	Iterative and incremental development
A	Continuous integration
Q	Select the items that describe the Product Owner Proxy role:
A	Manage product backlog (grooming, prioritization and refinement)
A	Removes barriers
A	Shields the team from external interferences
A	Acts as project manager
Q	Who is responsible for knowing and applying Agile Principles and Practices at all times?
A	Scrum Master
A	Product Owner
A	Architect
A	Management
Q	Who should necessarily attend the Daily Stand-up meeting?
A	The Development Team
A	The Scrum Team
A	The Development Team and the Product Owner
A	The Development Team and the Scrum Master
Q	Flexible manufacturing allows for:
A	factory management
A	automated design
A	tool design and tool production
A	quick and inexpensive product changes
Q	From the following what is the full form of AGV?
A	Automatic Guided Vehicle
A	Automated Gas Vehicle
A	Automated Guided Vehicle
A	Automatic Gas Vehicle
Q	What is the full form of AS/RS in FMS?
A	Automated storage and recovery system
A	automatic storage and rotary system
A	Automated storage and retrieval system
A	Automated storage and regenerative system
Q	From the following in which FMS layout workstations are arranged in a loop.
A	Ladder layout
A	In line layout
A	Loop layout

A	Open field layout
Q	From the following in which FMS layout robots are used as material handling system.
A	Ladder layout
A	Open field layout
A	Loop layout
A	Robot centered layout
Q	The type in which the range or universe of part styles that can be produced on the system
A	Mix flexibility
A	Production flexibility
A	Volume flexibility
A	Product flexibility
Q	The appropriate layout, when the application consists exclusively of in-sequence moves is
A	Rectangular layout
A	Loop layout
A	In-line layout
A	U-shape layout
Q	_____ cell consists of one machine plus supporting fixtures and tooling.
A	Multiple machine
A	Single machine
A	Simple machine
A	Automated machine
Q	The first five digits in Opitz parts classification and coding system are known as _____.
A	AGV
A	FMS
A	From code
A	New equipment
Q	The major tasks represent significant _____ to the application of group technology (GT).
A	Inclined line
A	Obstacle
A	Curve form
A	Vertical
Q	Flexible manufacturing means:
A	production of goods using less of everything.
A	tailoring products to meet the needs of individual customers.
A	using robots.
A	designing and using individual machines that can do multiple tasks so that each can produce a variety of products.

Q	What is the name of a system which brings together several technologies into a coherent system?
A	Portable manufacturing systems
A	Automated integration systems
A	Focused integration systems
A	Flexible manufacturing systems
Q	What is performance factor of workstation under 8 hour shift with 20 min cleaning and two 30 min break and no unplanned down time, cycle time is 1 second and 18000 items are produced?
A	0.5
A	0.75
A	0.25
A	1
Q	What is the relation of customer and supplier icons under VSM?
A	Both are different
A	Both are same
A	Customer icon is bigger
A	Supplier icon is bigger
Q	Which is not a Customer value
A	Efficiency
A	Cost
A	Delivery
A	Reliability
Q	What does takt time measurement
A	The process completion time
A	The product completion time
A	The rate of customer demand
A	The time of change over
Q	Who is attribute for development of SMED?
A	Taichii ohno
A	Genichi Taguchi
A	Kaoru ishikawa
A	Shigeo shingo
Q	Which device is mostly associated with automation?
A	flexible manufacturing
A	robots
A	computer graphics workstation
A	NC machine
Q	Which of the following is the first step in making a correct location choice?
A	Develop location alternatives

A	Decide the criteria for evaluating location alternatives
A	Evaluate the alternatives
A	Make a decision and select the location
Q	From a company standpoint, which factors determine the desirability of a community as a place for its workers and managers to live?
A	The amount of parking spaces
A	Retail stores
A	Schools
A	Locals attitudes towards the company
Q	Which of the following industries should be located near the vicinity of raw materials?
A	Cycles
A	Televisions
A	Sewing machines
A	Steel mills
Q	Space available in vertical and horizontal directions is most effectively utilised" is known as principle of
A	Cubic space utilisation
A	Flexibility
A	Flow
A	Minimum distance
Q	In ship manufacturing, the type of layout preferred is
A	Product layout
A	Process layout
A	Fixed position layout
A	Combination layout
Q	For handling materials during manufacture of cement, a _____ is widely used.
A	Belt conveyor
A	Bucket conveyor
A	Fork lift truck
A	Overhead crane
Q	In which of the following layouts, the lines need to the balanced
A	Process layout
A	Product layout
A	Fixed position layout
A	Plant layout
Q	The wastage of material in the store is taken into account by the following method in the evaluation of the material issued from the store
A	Inflated system

A	Primary cost method
A	Current value method
A	Fixed price method
Q	Which of the following is the first step in making a correct location choice?
A	Develop location alternatives
A	Decide the criteria for evaluating location alternatives
A	Evaluate the alternatives
A	Make a decision and select the location
Q	Which of the following is not true for Multi-storey building?
A	High heating and ventilation cost
A	Small ground runs for drainage
A	Adopted for manufacture of light goods
A	Less roof repairs
Q	An inclined belt conveyor is used for loading goods. If speed of the belt having 1500 mm width is 3 m/s then what is the volumetric capacity of the conveyor? (For 21o, k= 2.35 x 10–4)
A	$1.19x10^{-3}m^3/s$
A	$1.75x10^{-3}m^3/s$
A	$1.5x10^{-3}m^3/s$
A	$2.5 \times 10^{-3}\ m^3/s$
Q	Statement 1: Chain drive rollers move faster than belt driven rollers, Statement 2: Screw conveyors are used in the feeding of raw materials like wheat or chilly into the grinding unit to make a powder out of it.
A	True, False
A	True, True
A	False, False
A	False, True
Q	Statement 1: Cranes and hoists have an incline up and down option, Statement 2: Trucks can be used for continuous operations
A	True, False
A	True, True
A	False, False
A	False, True
Q	The following cell formation technique is based on Component shape and design?
A	Production flow analysis
A	Component flow analysis
A	Composite component
A	Simulation

Q	A phantom bill of material is used
A	when due dates have not been calculated
A	for sub-assemblies that are immediately consumed in the next stage of production
A	when the product is manufactured in major sub-assemblies
A	to group small, loose parts together
Q	Following two techniques used to design process layouts
A	block diagramming and relationship diagramming
A	relationship diagramming and assembly line balancing
A	relationship diagramming and assembling line balancing
A	block diagramming and assembly line balancing
Q	The system environment in a mainframe computer consists of
A	central processing
A	storage devices
A	printers and plotters
A	both central processing and storage devices
Q	Lead time is given by…….
A	Cycle time x No of workstations
A	Process time x No of workstations
A	Idle time x No of workstations
A	Efficiency x No of workstations
Q	Which of the following is NOT a plant layout
A	Process layout
A	Product layout
A	General layout
A	Group layout
Q	From the following in which coding method supplementary code and form code are used?
A	KK3 system
A	The MICLASS system
A	OPITZ coding system
A	The DICLASS system
Q	____ is a collection of parts which have similar characteristics.
A	Part family
A	Mono family
A	GT family
A	Poly family
Q	Productivity =
A	Input / Output
A	Output / Input
A	Output – Input
A	Input – Output
Q	The resources utilized for production are
A	Materials, Machines, Manpower

A	Materials, Methods, Machines
A	Machines, Manpower, Methods
A	Methods, Machine, Manpower
Q	Father of time study was
A	F.W. Taylor
A	H.L. Gantt
A	F.B. Gilbert
A	R.M. Barnes
Q	Tick the odd man out
A	Taylor
A	Drucker
A	McGregor
A	Galileo
Q	Productivity is the ____ of production system.
A	Measurement
A	Efficiency
A	Both A and B
A	None of the above
Q	Which of the following aspect is concerned with working conditions and amenities such as canteens, crèches, housing, transport etc.
A	Industrial relations aspects
A	Labor aspect
A	Welfare aspect
A	Monetary aspect
Q	In the job designing concept, BPR stands for
A	Business Process Resourcing
A	Business Process Reengineering
A	Business Process Reporting
A	Business Process Remodelling
Q	What is the term for a radical rethinking of the nature of the business?
A	Transformational change
A	Revolutionary change
A	Strategic manoeuvre
A	Paradigm shift
Q	What is the term for incremental changes to processes in an organisation using information technology?
A	Business process improvement
A	Business process reengineering
A	Business process change
A	Business process advance
Q	What is the first step in a 'Stage gate' process?
A	Develop a product
A	Demonstrate a plan
A	Initiate learning
A	Generate ideas and concepts
Q	What are the major steps in cognitive task analysis?

A	Use expert, conduct task analysis, interview experts, implement the results
A	Use typical users, develop task-based scenarios, observe users, analyze the data
A	Use typical users, develop task-based scenarios, select and implement knowledge elicitation methods, implement the results
A	Use experts, develop task-based scenarios, select and implement knowledge elicitation methods and implement the results
Q	Which of the following is an analytic evaluation for usability
A	Usability testing
A	Structured questionnaire
A	Simulation
A	Heuristics evaluation
Q	The model of long term memory is called
A	Circuit model
A	Neuron model
A	Network model
A	Control model
Q	What is not a factor effecting the response selection and execution?
A	Design complexity
A	Semantic memory
A	Compatibility
A	Feedback
Q	Analysis and diagnosis comes under which category:
A	Problem solving
A	Decision making
A	Planning
A	Execution
Q	The state of the worker by which the capacity and willingness for doing work is reduced is called
A	Stress
A	Fatigue
A	Creep
A	Effort
Q	The basic definition of Ergonomics is?
A	Using relaxed posture
A	Fitting the employee to the workstation
A	Fitting the workstation to the employee
A	Using for workstation
Q	*What is RSI?*
A	Repetitive Strain Injury
A	Regulatory Stress Information
A	Repetitive Systems Information
A	Regular Stress Injury
Q	How far should your monitor be from your eyes?
A	8” - 24”
A	18”- 30”

A	30” – 48”
A	At least 48”
Q	Which of the following wage incentive plan guarantees minimum wage to a worker and bonus is paid for the fixed percentage of time saved?
A	Halsey plan
A	Gantt plan
A	Rowan plan
A	Emerson's efficiency plan
Q	In Lincoln plan (one type of group incentive plan), the amount of the profit which an employee receives in addition to the guaranteed basic pay/ wages, is based on
A	A standard rating system
A	A merit rating system
A	A job evaluation system
A	His individual performance
Q	In Emerson’s efficiency plan, a worker receives only his daily wage and no bonus is paid till his efficiency reaches:
A	50%
A	66.67%
A	75%
A	80%
Q	Job evaluation is the method of determining the:
A	Relative worth of jobs
A	Skills required by a worker
A	Contribution of a worker
A	Contribution of a job
Q	Merit rating is the method of determining the:
A	Relative values of a job
A	Workers performance on a job
A	Worth of a machine
A	Value of overall production
Q	Merit rating is the method of determining the worth of:
A	A job
A	An individual employee
A	A particular division in workshop
A	A machine
Q	Both Rowan plan and 50-50 Hasley plan will provide the same earning when the actual time is _____ the standard time.
A	One-fourth
A	One-half
A	Equal to
A	Twice
Q	In Hasley 50-50 plan, the following are rewarded more
A	Past good workers
A	Past poor workers
A	Past average workers
A	Past excellent workers

Q	If a worker gets a daily wage of Rs. HA, then according to Rowan plan, his maximum daily earnings can be:
A	2 HA
A	1.33 HA
A	4.5 HA
A	1.15 HA
Q	One of the basic essentials of an incentive plan is that:
A	A differential piece rate system should exist
A	Minimum wages should be guaranteed
A	Provide incentive to group efficiency performance
A	All standards should be based on time studies
Q	The bonus increases in proportion to the increase in efficiency. This statement applies to
A	Hasley plan
A	Gantt plan
A	Emerson's efficiency plan
A	Rowan plan