Q=QUESTION A=ANSWER	question_description answer_description	question_explanation answer_explanation	question_type answer_isright	question_difficulty answer_position
Q	Productivity is ratio of		M	1
A	Input to Output		0	1
A	Output to Input		1	2
A	Quality to Cost		0	3
A	Cost to Quality		0	4
Q	Input Resource to carry out Manufacturing is		M	1
A	Raw Material		1	1
A	Finished Goods		0	2
A	Sales Returns		0	3
A	Shortage of Inventory		0	4
Q	Goal of Industrial Engineering is to		M	1
A	Improve Productivity		1	1
A	Decrease Human Resource		0	2
A	Increase Cost		0	3
A	Lower Product Value		0	4
Q	Break-Even point implies		M	1
A	cost equals revenue		1	1
A	cost is less than revenue		0	2
A	profit is greater than loss		0	3
A	cost is greater than revenue		0	4
Q	Industrial Engineering received contributions from		M	1
A	Captain America		0	1
A	Sherlock Holmes		0	2
A	John Wick		0	3
A	F W Taylor		1	4
Q	Which of the following factors could be intangible in Productivity Studies		M	1
A	Cost		0	1

A	Profit			0	2
A	Customer Delight			1	3
A	Revenue			0	4
Q	Productivity Improvement Techniques		M		1
A	Decrease Throughput Time			1	1
A	Decrease Revenue			0	2
A	Increase Throughput Time			0	3
A	Increase Cost			0	4
Q	Which of the following is independent of Sales Volume		M		1
A	Profit			0	1
A	Industrial Safety			1	2
A	Loss			0	3
A	Revenue			0	4
Q	Industrial Engineer plays role in		M		1
A	Reducing Wastes			1	1
A	Increasing Wastes			0	2
A	Decreasing Productivity			0	3
A	Compromising Safety Standards			0	4
Q	Industrial Engineering technique of critical investigation is		M		1
A	Mechatronics			0	1
A	Tribology			0	2
A	Automation			0	3
A	Work Study			1	4
Q	Value of a product is ratio of it's		M		1
A	Function to Cost			1	1
A	Cost to Function			0	2
A	Quality to Function			0	3
A	Function to Quality			0	4
Q	Value Analysis could be applied to		M		1
A	obsolete product			0	1
A	existing product			1	2

A	new product			0	3
A	declined product			0	4
Q	Value Engineering could be applied to		M		1
A	obsolete product			0	1
A	existing product			0	2
A	new product			1	3
A	matured product			0	4
Q	Value proposition of a product could be improved by		M		1
A	increasing it's cost			0	1
A	decreasing it's cost			1	2
A	decreasing it's utility			0	3
A	eliminating it's basic purpose			0	4
Q	Value proposition of a product could be improved by		M		1
A	increasing it's utility to cost			1	1
A	decreasing it's utility to cost			0	2
A	increasing it's cost			0	3
A	eliminating it's primary function			0	4
Q	Reliability of a product with the increase in number of functions it serves		M		1
A	improves			0	1
A	deteriorates			1	2
A	has no impact of it's utility			0	3
A	stays constant			0	4
Q	Primary Function of 'Paint' on a metallic surface is		M		1
A	corrosion resistance			1	1
A	identification			0	2
A	aesthetic			0	3
A	glare			0	4

Q	Cost of a product is influenced the most at		M		1
A	it's design stage			1	1
A	it's manufacturing stage			0	2
A	it's operating stage			0	3
A	it's disposal stage			0	4
Q	Use Value of a product is associated with the		M		1
A	function performed by the product			1	1
A	services absent in the product			0	2
A	functions absent in the product			0	3
A	cost of exchange of the product			0	4
Q	Cost Value of a product is cumulative cost incurred at the end of		M		1
A	Design Stage			0	1
A	Manufacturing Stage			1	2
A	Ideation Stage			0	3
A	Prototyping Stage			0	4
Q	The correct order of procedure in Work Study is		M		1
A	Select – Record – Examine – Develop – Measure – Define – Install – Maintain			1	1
A	Select – Define – Examine – Measure – Develop – Record – Install – Maintain			0	2
A	Select – Measure – Record – Develop – Examine – Define – Install – Maintain			0	3
A	Select – Record – Examine – Define – Measure – Develop – Install – Maintain			0	4
Q	The following factor must be considered while selecting the work for method study		M		1
A	Climate Change			0	1
A	Afforestation			0	2

A	Human reactions			1	3
A	Census			0	4
Q	In process charts, the symbol used for storage is		M		1
A	Circle			0	1
A	Square			0	2
A	Arrow			0	3
A	Triangle			1	4
Q	In process charts, the symbol used for Transport is		M		1
A	Circle			0	1
A	Square			0	2
A	Arrow			1	3
A	Triangle			0	4
Q	Delay' event reflects in charting procedure when		M		1
A	operator is on leave			0	1
A	work awaits subsequent event			1	2
A	a public holiday is announced			0	3
A	foreman is on leave			0	4
Q	A milk powder tin is being weighed as it is filled is an example of		M		1
A	Operation cum transportation			0	1
A	Operation cum inspection			1	2
A	Transportation cum inspection			0	3
A	Delay and Storage			0	4
Q	In outline process chart, the horizontal lines represent		M		1
A	sub-assemblies being introduced to principal process flow			1	1
A	decision nodes in process			0	2
A	principal process flow			0	3
A	bypassing of standard instructions			0	4

Q	Work study technique is divided into two sub-approaches as		M		1
A	Method Study and Work Measurement			1	1
A	Budgeting and Provisioning			0	2
A	Administration and House Keeping			0	3
A	Safety and Disposal			0	4
Q	Work study is		M		1
A	a productivity improvement technique			1	1
A	a preventive maintenance philosophy			0	2
A	a quality management philosophy			0	3
A	Reengineering Technique			0	4
Q	Work study as defined by ILO, is a systematic investigation of factors affecting		M		1
A	discipline and security			0	1
A	safety and disposal			0	2
A	efficiency and economy			1	3
A	reliability and quality			0	4
Q	Method study, as defined by ILO, is a systematic recording and critical examination of		M		1
A	discipline and security			0	1
A	safety and disposal			0	2
A	existing ways of doing work and proposed ways of doing work			1	3
A	reliability and quality			0	4
Q	Method Study aims at		M		1
A	increasing costs			0	1
A	reducing workforce			0	2
A	minimizing profits			0	3
A	applying more effective methods			1	4
Q	Work Measurement establishes		M		1
A	time			1	1

A	space			0	2
A	matter			0	3
A	method			0	4
Q	The correct order of procedure in Method Study is		M		1
A	Select – Record – Examine – Develop – Define – Install – Maintain			1	1
A	Select – Define – Examine – Develop – Record – Install – Maintain			0	2
A	Select – Record – Develop – Examine – Define – Install – Maintain			0	3
A	Select – Record – Examine – Define – Develop – Install – Maintain			0	4
Q	Complete sequence of manufacture can be depicted by		M		1
A	Run Chart			0	1
A	Flow process chart			1	2
A	P Chart			0	3
A	C Chart			0	4
Q	In a Factory layout, movement of materials can be depicted by		M		1
A	Pie Charts			0	1
A	Travel Chart			1	2
A	Histogram			0	3
A	Pareto Chart			0	4
Q	In a Factory layout, movement of workers is depicted in		M		1
A	Venn Diagram			0	1
A	String diagram			1	2
A	Iron Carbon Diagram			0	3

A	Scatter Diagram			0	4
Q	Gang work could be studied using		M		1
A	Gangway Layout			0	1
A	Cusum Chart			0	2
A	Multiple activity chart			1	3
A	Check Sheets			0	4
Q	Workplace layout could be studied using		M		1
A	Two-handed process chart			1	1
A	Cusum Chart			0	2
A	Venn Diagram			0	3
A	Run Chart			0	4
Q	Typesetting by hand could be studied using		M		1
A	Simo Chart			1	1
A	String diagram			0	2
A	Travel Chart			0	3
A	Histogram			0	4
Q	Short cycle repetitive work could be studied using		M		1
A	String diagram			0	1
A	Micromotion analysis			1	2
A	Travel Chart			0	3
A	Check Sheets			0	4
Q	‘Ergonomics’ is related to human		M		1
A	comfort and safety			1	1
A	aesthetics and awe			0	2
A	beauty and appeal			0	3
A	occupation and race			0	4
Q	The following subject is related to ‘Ergonomics’		M		1
A	Anthropology			1	1

A	History			0	2
A	Geography			0	3
A	Zoology			0	4
Q	In Ergonomics, the qualitative information is one which concerns the		M		1
A	value of some variable			0	1
A	rate of change			1	2
A	Condition or status of a system			0	3
A	Presence or absence of some specific object			0	4
Q	In Ergonomics, the quantitative information is one which concerns the		M		1
A	value of some variable			1	1
A	rate of change			0	2
A	Condition or status of a system			0	3
A	Presence or absence of some specific object			0	4
Q	Ergonomics principle suggests that		M		1
A	Monitoring displays may ignore peripheral limitations			0	1
A	Glow-in-the dark dials made of reflective substances add to costs so should be avoided			0	2
A	Visual systems should be preferred over auditory systems in noisy locations			1	3
A	Auditory senses are more reliable than Visual senses			0	4
Q	The following is basic type of dynamic quantitative display in ergonomics		M		1
A	Fixed scale with moving pointer			1	1
A	Fixed pointer with fixed scale			0	2
A	moving pointer with moving scale			0	3

A	curtailed scale with truncated pointer			0	4
Q	In designing an efficient workspace, operator's hands will cover		M		1
A	Maximum working area			1	1
A	Normal working area			0	2
A	Minimal working area			0	3
A	Half of working area			0	4
Q	For a Bench Workspace, the most frequently used components are arranged at		M		1
A	Left Side			0	1
A	Right Side			0	2
A	Central Area			1	3
A	Above the eye level			0	4
Q	When large number of controls and displays are to be arranged, more consideration should be given to		M		1
A	Secondary controls for Secondary Visual Tasks			0	1
A	Primary controls for Primary Visual Tasks			1	2
A	Secondary Visual Tasks			0	3
A	Secondary Controls			0	4
Q	Height of the top of work bench with reference to height of elbow of the workman should be		M		1
A	at the elbow level			1	1
A	substantially above the elbow level			0	2
A	significantly below the elbow level			0	3
A	exactly two inches above elbow level			0	4
Q	For controlling the rotation through more than 360 degree, we use		M		1
A	Knob			0	1

A	Selector			0	2
A	Crank			1	3
A	Wheel			0	4
Q	For natural light as principal means of illumination at workspace, ratio of window area to floor area needs to be		M		1
A	20%			0	1
A	30%			1	2
A	40%			0	3
A	50%			0	4
Q	Illumination of work area compared to surroundings should be		M		1
A	more			1	1
A	less			0	2
A	equal			0	3
A	matching			0	4
Q	The safe exposure limits for noise levels for 08 hours of working/day in dB is		M		1
A	90			1	1
A	110			0	2
A	130			0	3
A	150			0	4
Q	The following are the principles in the application of Anthropometric data except		M		1
A	Design for extreme individuals			0	1
A	Design for the average			0	2
A	Design for adjustable range			0	3
A	Design for the optimum			1	4
Q	The international limits for chemical substances in air is known as		M		1
A	Maximum Limit			0	1

A	Minimum Limit			0	2
A	Optimum Limit			0	3
A	Threshold Limit			1	4
Q	The correct sequence of development of Anthropometric considerations in design step by step, is		M		1
A	Decide the user population – Decide the relevant body measurement – Determine the applicable principle – Decide the percentage of population			1	1
A	Decide the relevant body measurement – Decide the user population –Determine the applicable principle – Decide the percentage of population			0	2
A	Decide the user population – Decide the relevant body measurement – Decide the percentage of population – Determine the applicable principle			0	3
A	Decide the user population – Determine the applicable principle – Decide the relevant body measurement – Decide the percentage of population			0	4
Q	Process layout is more suitable for		M		1
A	job production			0	1
A	batch production			1	2
A	mass production			0	3
A	project site			0	4
Q	Fixed layout is more suitable for		M		1
A	on site projects			1	1
A	job production			0	2
A	batch production			0	3

A	mass production			0	4
Q	Product layout usually deploys		M		1
A	general purpose machines			0	1
A	special purpose machines			1	2
A	cheaper locally sources machines			0	3
A	indigenous technology			0	4
Q	Process layout usually deploys		M		1
A	general purpose machines			1	1
A	special purpose machines			0	2
A	costlier imported machines			0	3
A	no indigenous technology			0	4
Q	Product layout assures		M		1
A	quantity of production			1	1
A	variety in production			0	2
A	more flexibility in production			0	3
A	many products being processed at a time			0	4
Q	Process Layout assures		M		1
A	quantity of production			0	1
A	variety in production			1	2
A	less flexibility in production			0	3
A	single product being processed at a time			0	4
Q	Disadvantage of product layout is		M		1
A	high initial investment for a specialized facility			1	1
A	high work in process inventory			0	2
A	higher throughput times			0	3
A	high flexibility in manufacturing			0	4
Q	Function specific arrangement of resources is implemented in		M		1
A	Fixed Layout			0	1
A	Process Layout			1	2

A	Product Layout			0	3
A	Project Layout			0	4
Q	Product specific arrangement of resources is implemented in		M		1
A	Fixed Layout			0	1
A	Process Layout			0	2
A	Product Layout			1	3
A	Project Layout			0	4
Q	Number of fixed sets of machines required is relatively highest in		M		1
A	Product Layout			1	1
A	Process Layout			0	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Number of fixed sets of machines required is relatively lowest in		M		1
A	Product Layout			0	1
A	Process Layout			1	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Initial Fixed Cost investment required is relatively highest in		M		1
A	Product Layout			1	1
A	Process Layout			0	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Initial Fixed Cost investment required is relatively lowest in		M		1
A	Product Layout			0	1
A	Process Layout			1	2
A	Fixed Layout			0	3
A	Project Layout			0	4

Q	Extent of material handling is relatively more in		M		1
A	Product Layout			0	1
A	Process Layout			1	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Extent of material handling is relatively less in		M		1
A	Product Layout			1	1
A	Process Layout			0	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Production facility is relatively more versatile in		M		1
A	Product Layout			0	1
A	Process Layout			1	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Production facility is relatively less versatile in		M		1
A	Product Layout			1	1
A	Process Layout			0	2
A	Fixed Layout			0	3
A	Project Layout			0	4
Q	Drivers of Agile environments		M		1
A	retarded technological developments			0	1
A	niche markets			1	2
A	dragged product life cycles			0	3
A	stable and loyal customer base			0	4
Q	Agile approach demands enterprises to collaborate outside with		M		1
A	departments			0	1
A	functions			0	2

A	competitors			1	3
A	employees			0	4
Q	Agile manufacturing deals in		M		1
A	high quantity mass production			0	1
A	medium lot size production			0	2
A	arbitrary quantity production			1	3
A	one off unit quantity production			0	4
Q	Agile manufacturing advocates		M		1
A	mass Production			0	1
A	mass customization			1	2
A	mass communication			0	3
A	mass publicity			0	4
Q	Agile approach involves		M		1
A	centralized manufacturing facility near to raw materials			0	1
A	decentralized manufacturing clusters near to markets			1	2
A	manufacturing facility away from market			0	3
A	manufacturing clusters around raw material sites			0	4
Q	Agile approach works best with		M		1
A	Line Layout			0	1
A	Fixed Layout			0	2
A	Flexible Layout			1	3
A	Project Layout			0	4
Q	An agile supply chain takes care of		M		1
A	a high level of demand uncertainty.			0	1
A	a high level of both demand and supply uncertainty.			1	2
A	a high level of supply uncertainty.			0	3
A	either demand or supply uncertainty.			0	4

Q	Products in the fashion goods industry and the high-technology industry suffer from forecast inaccuracy due to		M		1
A	a high level of demand certainty.			0	1
A	a wide range of product variety.			1	2
A	an extended life-cycle of the products.			0	3
A	a high level of supply certainty.			0	4
Q	Firms engaged in outsourced manufacturing have to be concerned with		M		1
A	disruptions in demand.			0	1
A	disruptions at facilities.			0	2
A	disruptions in transportation and freight breaches.			1	3
A	disruptions in supply.			0	4
Q	Fully automated Group Technology enabled manufacturing cell with a dedicated material handling is		M		1
A	Flexible Manufacturing System			1	1
A	Automated Manufacturing			0	2
A	Group Manufacturing			0	3
A	Mechanized Production Unit			0	4
Q	Which is the component of Flexible manufacturing system(FMS)		M		1
A	Wheel Barrow			0	1
A	Automated guided vehicle			1	2
A	Fork Lift			0	3
A	Chute			0	4
Q	From the following what is the full form of AGV?		M		1
A	Armed Guided Vehicle			0	1
A	Automated Gas Vehicle			0	2
A	Automated Guided Vehicle			1	3

A	Alarmed Guided Vehicle			0	4
Q	From the following which is the type of Automated Guided Vehicle (AGV).		M		1
A	Driver less Material Handling System			1	1
A	Operator Driven Goods Cart			0	2
A	Pendant Operated Goods Trolley			0	3
A	Walkthrough Controlled Goods Train			0	4
Q	From the following which method is used to guide the AGV.		M		1
A	drag force for push or pull			0	1
A	rolling motion utilizing floor slope			0	2
A	wired or wireless sensor based self guiding			1	3
A	operator driven motorised vehicle			0	4
Q	From the following which is not the application of AGV.		M		1
A	Truck loading and unloading			0	1
A	To change the tool			1	2
A	Material transfer			0	3
A	Paper roll transfer			0	4
Q	From the following which is the benefit of AGV.		M		1
A	increases man-hour rates			0	1
A	reduces human exposure in hazardous environment			1	2
A	increases labour cost			0	3
A	increases power consumption			0	4
Q	A combination of equipment and controls which handles, stores and retrieves materials with precision, accuracy and speed under a defined degree of automation is known as		M		1

A	Automated storage and retrieval system (AS/RS)			1	1
A	Automated guided vehicle			0	2
A	Flexible Manufacturing System			0	3
A	Fork Lift			0	4
Q	From the following which is the main component of AS/RS system.		M		1
A	warehouse			0	1
A	Storage and retrieval equipment			1	2
A	shop floor			0	3
A	rack			0	4
Q	From the following which is the benefit of AS/RS system		M		1
A	Consistency in Material Handling			1	1
A	poor housekeeping			0	2
A	Increased labour cost			0	3
A	damage to surface of product			0	4
Q	From the following which is the type of FMS layout.		M		1
A	process layout			0	1
A	Ladder Layout			1	2
A	Product Layout			0	3
A	Project Layout			0	4
Q	What is the full form of AS/RS in FMS?		M		1
A	Automated storage and recovery system			0	1
A	Automatic storage and rotary system			0	2
A	Automated storage and retrieval system			1	3
A	Automated storage and regenerative system			0	4
Q	Agile manufacturing is more suitable for		M		1

A	unpredictable and probabilistic manufacturing environments			1	1
A	deterministic manufacturing environment			0	2
A	anticipated customer behaviour environments			0	3
A	confirmed order manufacturing environments			0	4
Q	Agile Enterprise assures		M		1
A	retarded response time to market			0	1
A	zero product customization			0	2
A	extended product development cycles			0	3
A	shortest possible response times to market			1	4