A		Reg. No.	.:								
Question Paper Code: 59720											
B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022											
Elective											
Mechanical Engineering											
15UME920 - PRODUCTION PLANNING AND CONTROL											
(Regulations 2015)											
Dura	ation: Three hours		Maximum: 100 Marks								
Answer ALL Questions											
PART A - $(10 \text{ x } 1 = 10 \text{ Marks})$											
1.	helps in establishing the interchangeability of products. CO1- U								1 - U		
	(a) Standardization (b) Simplification										
	(c) Specialization	ialization (d) Diversification									
2.	Job helps in establishing the interchangeability of products CO1- U						1 - U				
	(a) Standardization (b) Simplification (c) Diversification (d) Specialization										
3.	Work Study Consists of						CO	2- R			
	(a) Effective use of plant and equipment (b) Effective use of human effort										
	(b) Evaluation of human work (d)			All of th	of the above						
4.	Delay occurs when						CO	2- R			
	(a) someone stops the process (b) product wait for next event (ope							ation)		
	(c) both 'a' and 'b'	((d) None of the above								
5.	Choose the following,	owing, which is not a part of Five M's. CO3- U									
	(a) Material (b) M	(c) Mot	ion			(d) Method					
6.	Select the correct chart which is drawn by using Machine CO vs time.						3- U				
	(a) Man machine chart		(b) The load chart								
	(c) The progress chart		(d) Curve chart								

7.	Gan	tt chart is mostly used for	CO4- U								
	(a) H	Routing	(b) Scheduling								
	(c) I	Follow up	(d) Inspection and quality co	ontrol							
8.	The	bill of material does not cons	CO4- U								
	(a) I	Part number									
	(c) Ì	Name of the part	(d) Price of the part								
9.	Cho	boose the following which is not an inventory. CO5-									
	(a) N	Machines (b) Raw material	(c) Finished products (d) Consur	nable tools							
10.	The following classes of costs are usually involved in inventory CO5-U decisions except										
	(a) (Cost of ordering	(b) Carrying cost								
	(c) (Cost of shortages	(d) Machining cost								
	PART – B (5 x 2= 10 Marks)										
11.	. Explain the objectives of production planning										
12.	Dist	CO2- U									
13.	State	CO3- U									
14.	Exp	CO4- U									
15.	List	CO5- U									
		PAR	T – C (5 x 16= 80 Marks)								
16.	 (a) A firm has annual fixed costs of Rs.3 million and variable costs CO1- App (16 of Rs. 8 per unit. It is considering an additional investment of Rs.8,00,000 which will increase the fixed costs by Rs.1,50,000 per year and will increase the contribution by Rs.2.50 per unit. No change is anticipated in the sales volume or the sales price of Rs.16 per unit. What is the break- even quantity if the new investment is made? 										
	(h)	The following are given for	CO1 App (16)								
	(0)	estimated output = $80,000$ un Variable cost = Rs. 10 per un Find out the break-even poin	nits, Fixed cost = Rs. 40,000, nit, selling price = Rs 20/units. nt analytically and graphically.	CO1- App (10)							

17. (a) Apply the tools and techniques used in the recording phase of CO2- App (16) method study in a fasteners manufacturing industry.

Or

- (b) Apply the various techniques of work measurement in the CO2-App (16) packaging unit of a bolt and nut manufacturing industry.
- 18. (a) State about machine balancing. Also explain the effect of CO3- App (16) balancing on number of machines required with an illustration.

Or

- (b) Discuss about the Machine Capacity along with its machine CO3-App (16) requirements.
- 19. (a) What are Gantt charts? Explain their types? How are they CO4- App (16) constructed?

Or

- (b) What is priority sequencing? Explain any six priority rules CO4- App (16) used for job sequencing
- 20. (a) List and explain the different types of cost in inventories CO5- App (16) system.

Or

(b) Discuss the various basic elements of JIT that must be CO5- App (16) addressed for successful JIT implementation.