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**UNIVERSITY OF PETROLEUM
AND ENERGY STUDIES**



End Semester Examination, Dec 2017

Program/course: BBALLB(Hons)B&F, Int BCom LLB, Int. BBA(LLB) Semester – III
Subject: Operations and Material Management Max. Marks : 100
Code : BBCG 104 Duration : 3 Hrs.
No. of page/s: 3

Section A

Maximum Marks: 20

Note: Attempt all questions.

1. Mark True/False (T/F) for the following
 - a) One of the functions of materials management is stores management (T/F)
 - b) Production (Action) Planning is thinking in advance to furnish all production functions. (T/F)
 - c) Quality assurance is the emphasis on finding and correcting defects before reaching market (T/F)
 - d) Dispatching is tracking the progress in production, movement through different departments, in scheduled times (T/F)
 - e) Aggregate Production Plan is for a medium range (3-18 months) (T/F)
2. Fill in the blanks
 - i. A measure that relates output measure to inputs available is _____.
 - ii. _____ type of layouts are designed to accommodate processing one or a few variety of related products.
 - iii. In the SDE analysis, S stands for _____
 - iv. _____ is the start of cycle of purchasing procedure
 - v. The application of human biological sciences along with engineering sciences to achieve optimum mutual adjustment of men and his work is _____

Section B

Note: Attempt any 4 questions. Each question carries 5 marks.

3. What are the three types of inventory costs? Explain.
4. What are the objectives of codification?
5. What are the consequences of poor quality?
6. What are the various types of maintenance management?
7. What are the three aspects covered for vendor rating?

Section C

Note: Attempt any three questions. Each question carries 10 marks.

8. What are the various types of scheduling methodology? Explain.
9. What are the 10 system parameters of production planning and control?
10. What are the four classifications of facility layout? Explain.
11. What are the seven types of wastes? Explain.

Section D

Maximum Marks: 30

Note: Attempt all questions. Each question carries 10 marks.

12. ABC company produces toilet soaps at their works. Aggregate Planning measures used by ABC is tonnes of soap which includes making and packing of the soap. The planning is done for a time horizon of one year or four quarters.

Quarter	1	2	3	4
Demand	35	55	60	45

The company has a regular workforce which can produce 35 tonnes of output per quarter. If the workers are allowed to work overtime with the restriction that the extra time cannot be more than 20% of the regular time. The output rate is 25% higher than regular time during

overtime but the overtime expenses are 40% more than the regular time. The company subcontracts the soap making and packing operation but only at a cost of 50% premium than the cost of production. The regular time production costs are Rs. 10000/- per tonne.

No shortages are allowed as per company policy. Inventory carrying costs are Rs. 5000/- per tonne per annum.

Design the cost efficient aggregate plan assuming zero starting inventory. Compute the total production cost.

13. Demand for the deskpro computer at Best buy is 1000 units per month. Best buy incurs a fixed order cost of \$4000 each time an order is placed. Each computer costs Best buy \$500 and the retailer had a holding cost of 20%. Evaluate the number of computers that the store should order in each replenishment lot.

14. The MS 800 car is to be assembled on the conveyor belt. 480 cars are required per day. Production time per day is 440 minutes, and assembly steps and times for wagon are given below. Find the cycle time and number of workstations

Task	Task Time (in seconds)	Description	Tasks that must precede
A	45	Position rear axle support	-
B	11	Four screws to nut	A
C	9	Insert rear axle	B
D	50	Tighten rear axle support screws to nuts	-
E	15	Position front axle assembly	D
F	12	Fasten four screws	C
G	12	Tighten front axle	C
H	12	Position rear wheel 1	E
I	12	Position rear wheel 2	E
J	8	Position front wheel 1	F,G,H,I
K	9	Position front wheel 2	J