

INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF PAKISTAN

PROFESSIONAL-I EXAMINATION-SPRING (SUMMER), 2006

Tuesday, the 30th May, 2006

32

MANAGEMENT SCIENCE APPLICATIONS

Time Allowed—2 Hours 45 Minutes

Maximum Marks—80

- (i) Attempt TWO questions each from Sections "1" and "2". All questions carry equal marks.
- (ii) Answers must be neat, relevant and brief.
- (iii) In marking paper, the examiners take into account clarity of exposition, logic of arguments, presentation, language and use of clear diagram or chart, where appropriate.
- (iv) Read the instructions printed on the top cover of answer script GAREFULLY before attempting the paper.
- (v) DO NOT write your Name, Reg. No. or Roll No. anywhere inside the answer script.
- (vi) Question No. 1 — "Multiple Choice Question" printed separately, is an integral part of this paper.

Marks

SECTION "1" PRODUCTION TECHNOLOGY

- | | | |
|--------------|---|----|
| Q. 2 (a) (i) | Briefly describe ferrous and non-ferrous materials. | 4 |
| (ii) | Enlist the basic fabricating characteristics of both ferrous and non-ferrous materials. | 4 |
| (b) (i) | What are structural adhesives ? | 3 |
| (ii) | What are the major factors, which influence the selection of an adhesive for a specific application ? | 4 |
| (c) (i) | Define the term HVAC. | 1 |
| (ii) | What is the significance of HVAC in manufacturing industries ? | 4 |
| Q. 3 (a) | Write units of measurement for the following : | 10 |
| (i) | Mass | |
| (ii) | Work | |
| (iii) | Mechanical energy | |
| (iv) | Heat energy | |

	Marks
(v) Temperature	
(vi) Electric current	
(vii) Length	
(viii) Area	
(ix) Volume	
(x) Flow	

(b) Write the uses of following equipment in a factory : 10

- (i) boiler
- (ii) transformer
- (iii) furnace
- (iv) air compressor
- (v) pump
- (vi) generator
- (vii) motor
- (viii) internal combustion engine
- (ix) steam engine
- (x) distribution box

Q. 4 Write short notes on the following :

- (a) Hydrogenation 5
- (b) Polymerization 5
- (c) Fractional Distillation 5
- (d) Carding 5

SECTION "2" OPERATIONS MANAGEMENT

Q. 5 (a) What is work study ? How the results of this study are useful in the field of cost accounting ? 10

(b) Write short notes on any two of the following : 10

- (i) Simulation technique
- (ii) JIT strategy
- (iii) PERT/CPM

Q. 6 (a) (i) What is inventory ? 3

(ii) Discuss functions of inventory control. 5

	Marks
(b) (i) The annual demand of a micro-oven dealer is 4500 units. The dealer opens his shop for 300 days in a year. The supplier requires 5 working days to supply the orders placed with him. Calculate the re-order point of the dealer.	4
(ii) The manufacturer of micro-wave oven has an annual demand of 16,000 units but he can produce 32,000 units annually. The set up cost is Rs. 10 and carrying cost is Re 1 per unit. What is the optimal number of units to be produced each time ?	8
Q. 7 (a) Define project constraints.	5
(b) What should a scope management plan include ?	5
(c) How are project activities planned ?	5
(d) How a schedule is managed with the help of "Microsoft Project" ?	5

THE END