Registration No : | | | | | | | | | | |

Total Number of Pages: 02 **B.Tech.**
FEME6302

5th Semester Back Examination 2017-18
Project Management
BRANCH : AERO, MANUFAC, MANUTECH, MECH, PE
Time : 3 Hours
Max Marks : 70
Q.CODE : B146
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 **Answer the following questions :** **(2 x 10)**

a) List various knowledge areas of project management.
b) List the three main performance objectives of project management.
c) What are various types of feasibility analysis?
d) What is Work Breakdown Structure?
e) Distinguish between an activity and an event.
f) Illustrate the use of Dummy activity in project network showing activity on arrow.
g) Distinguish between monitoring and control.
h) What is meant by Risk Management?
i) What do you mean by resource leveling?
j) Write Earned Value performance index for cost and time.

Q2 **a)** What are the technical aspects of a typical project? Discuss three important issues that should be considered while conducting technical analysis. **(5)**
b) List various criteria for selection of project. **(5)**

Q3 The factory is set up to produce colour TV at estimated cost as under. **(10)**

Cost of land Rs. 100 lakhs
Cost of factory shed Rs. 50 lakhs
Cost of furniture, machines, etc. Rs. 200 lakhs

The factory intends to produce 600 TV sets per month at average sale price of Rs.8000/_ per unit.

The running cost of factory is as under.

Working capital Rs 50 lakhs
Salary to employees Rs. 6 lakhs per month
Electricity and water charges Rs. 0.5 lakhs per month
Miscellaneous expenditure Rs. 1.0 lakhs per month
Raw material cost Rs. 2,500 per unit
Processing cost Rs. 1,500 per unit

The rate of depreciation on building is assumed to be 5% and for other items it is 10%. The cost of capital (interest) is 14%.

Determine minimum quantity that should be produced and sold (Break Even Quantity) so that there is no loss to industry.

Q4 **a)** Discuss problem associated with scheduling under resource constraint. **(3)**
b) The activities, their duration and activity dependency is shown below. **(7)**

Activity	Description	Duration	Predecessor activity
A	Hardware selection	6	–
B	Software design	8	–
C	Install hardware	4	A
D	Code & test software	6	B
E	File take-on	3	B
F	Write user manuals	10	–
G	User training	2	E, F
H	Install & test system	2	C, D

Draw network diagram and determine critical path and minimum duration of project. Find total float, free float and independent float for each activity.

Q5 **a)** Write why project crashing becomes necessary? **(3)**

b) The time and cost estimates of different activities of a project and their precedence relationship are ' given below : **(7)**

Activity	Preceding Activity	Normal		Crash	
		Duration (Days)	Cost Rs.	Duration (Days)	Cost (Rs.)
A	--	5	30000	4	32000
B	A	6	12000	2	20000
C	A	5	10000	4	12000
D	B, C	5	12000	3	15000
E	C	5	16000	4	17000
F	D, E	4	15000	3	20000

If indirect costs are Rs. 2800/day, crash the network to optimum duration for time-cost trade off.

Q6 **a)** What are the objectives of project management information systems? List different data items used and information/ reports generated by typical project management information system? **(5)**

b) Budgeted Cost of Work Scheduled (BCWS) at end of six month is Rs.200,000/_ whereas actual expenditure incurred is Rs.190,000. Progress status of different activities of project after six month is as under. **(5)**

Activity	Estimated cost in thousand INR	Status
A	35.0	Completed
B	50.0	Completed
C	80.0	Under progress
D	20.0	Completed
E	70.0	Under progress
F	25.0	Not Started
G	25.0	Not Started

Assuming activities under progress to be half complete, determine Cost Variance, Schedule Variance, Cost Performance Index, and Schedule Performance Index.

Q7 **a)** Explain how matrix organization is often appropriate for the governance of a project? **(5)**

b) Explain the project closure process. **(5)**

Q8 Write short answer on any TWO: **(5 x 2)**

a) LOB technique in Project Management

b) Work Breakdown Structure

c) Project Audit Life Cycle

d) Environment Resource Value