MASTER OF BUSINESS ADMINISTRATION

(Part II) EXAMINATION, 2003

Paper 201

PROJECT MANAGEMENT

Time : Three Hours

Maximum Marks : 70

Attempt *Five* questions in all, selecting at least *one* question from each Section. Section D is compulsory.

All questions carry equal marks.

Section A

1. (*a*) "The basic parameters of project formulation are different in case of developing and developed countries, although the broad outline is the same." Analyse the statements.

   (*b*) Discuss different aspects of project formulation. 10,10

2. M/s Prakash spinners, a new partnership firm has proposal to set up a new cotton yarn spinning unit with an installed capacity of about 4,200 spindles, for the manufacture of 20's count cotton yarn. The

P.T.O.

project promoters, not being exposed to the tech-nical details about the various machinery required for the project, have proposed to purchase the following machinery, after consultations with a few well wishers ! (which is not infrequent in real life situations !) :

Blow room (with one scutcher)	1 no.
Carding machines	4 nos.
Draw frame	2 nos.
Simplex frame	2 nos.
Ring spinning frames	6 nos.

The promoters have obtained licence for setting up a cotton spinning mill of 4,200 spindles capacity. The following are the technical details of the machinery. Rated capacity @ 100% efficiency :

Ring spinning frame : 216 grams per spindle per shift (8 hrs.)

Simplex frame : 3.63 kg per spindle per shift (8 hrs.)

Draw frame : 384 kg per shift (8 hrs.)

Carding machine : 140.30 kg per shift (8 hrs.)

Blow room (with one scutcher) : 1285 kg per shift (8 hrs.)

Ring spinning frames are available with 450 spindles capacity each and Simplex frames are available with 136 spindles capacity each.

Wastages at the different stages of processing are as under :

Wastage in ring spinning frame	: 3.00%
Wastage in simplex frame	: 2.00%
Wastage in draw frame	: 1.00%
Wastage in carding machine	: 5.00%
Wastage in blow room	: 7.50%

Capacity utilization of the ring spinning frame is 90%.

Machine efficiency of the different machines are as under :

Ring spinning frame	: 89.00%
Simplex frame	: 94.00%
Draw frame	79.00%
Carding machine	85.00%
Blow room	: 80.00%

Find out whether the machinery proposed to be purchase by the project promoters are balanced in terms of output. If found unbalanced, suggest the correct scheme of machinery.

P.T.O.

3. A government is considering building a tunnel across a sea channel which can currently only be crossed by ship. The following information is available :

(*i*) The tunnel will consist of a two-track railway and cars and passengers will be carried by train. It will cut crossing time by three hours for cars and passengers.

(*ii*) The relevant categories of traffic are :

(*a*) cars (and their passengers);

(*b*) passengers not in cars;

(*c*) freight.

(*iii*) The authorities who would operate the tunnel have decided to charge a toll which would maximise revenue. The toll that they have decided to charge is Rs. 175 per car which compares favourably with the charge by ship which is Rs. 250.

(*iv*) Because of the quicker and cheaper journeys available, it is forecast that the following traffic per year for the foreseeable future will be diverted from the existing method of travel :

1,00,000 cars (with an average of two passengers)

15,000 passengers not in cars

3,50,000 tonnes of freight

In addition 60,000 extra car journeys (with two passengers each) will be made.

(*v*) The average value of passenger time is Rs. 10 per hour.

(*vi*) The diverted traffic will reduce the cost of operation of existing ship by Rs. 60 million a year, while at the forecast levels of traffic, the maintenance and operating cost of the tunnel will be Rs. 5 million. Its capital cost will be Rs. 600 million. The life of the tunnel will be 50 years.

(*vii*) Assuming that the monetary figures given above reflect social value, calculate the IRR of the stream of social costs and benefits.

4. Write short notes on :

(*a*) Matrix form of organisation;

(*b*) Role and responsibilities of a project manager;

(*c*) Shadow discount rate. 6,6,8

Section C

5. (*a*) Select and discuss a specific technique of your choice which can be used for tracking and controlling a project.

(*b*) Ex-post evaluation 12,8

details are given below :

S.No.	Items	Quantity	Man Hour Data	Begs & End Dates
1.	Excavation Ord. Soil	8000 m^3	4 mH/m^3	Jan.—April
2.	Excavation-Rocks	1000 m^3	20 mH/m^3	Feb.—June
3	Foundation	4800 m^3	15 mH/m^3	Mar.—July
4.	Pillars	800 m^3	90 mH/m^3	April—Sept.
5.	Brick-work	4800 m^3	25 mH/m^3	May—Oct.
6.	R.C.C.	1000 m^3	75 mH/m^3	June—Nov.
7.	Structural fabrication	500 mT	160 mH/mT	July—Jan.
8.	Structural erection	500 mT	120 mH/mT	Aug.—Feb.
9.	Plaster	9600 sq.m	2.5 mH/sq.m	Oct.—April

Section D

7. Sterling Ltd. is thinking of investing in a project costing Rs. 25 lakhs. The life of the project is 8 years end the estimated selvage value of the project is Rs. 2.75 lakhs. The company follows a straight line method of depreciation. The tax rate is 35%. The expected cash flows before tax are :

Year	Est. Cash Inflow (before tax in lakhs)
1	4
2	4.25

4	5.25
5	5.60
6	5.35
7	5.15
8	4.85

You are required to determine :

(*i*) Payback period;

(*ii*) Internal rate of return;

(*iii*) NPV at 5% cost of capital;

(*iv*) NPV at 15% cost of capital.