

Bharatiya Vidya Bhavan's

**SARDAR PATEL COLLEGE OF ENGINEERING**

(An Autonomous Institute Affiliated to University of Mumbai)

**End Sem 2014**

Sem: M E Construction Management / Sem-1 / 2014

Subject: Accounting & Finance Management

*ME (Constr. manag), sem - I*

*Master.*

Note: Attempt any 5 Questions .

Each Question carries 20 Marks

Q1 (a) Explain the features of Journal and Ledger and (08)

highlight the rules for Debit and Credit.

(b) Journalise the following and post them into Ledger (12)

2000 March 1 . Bought goods worth Rs 10000 from Dev on credit

2 sold goods worth Rs 2000 to Ramnath on Credit

10 Paid Rs 1000 cash to Ramnath

15 Received Rs 800 by way of Commission.

20 Paid Rs 200 towards Interest.

26 Sold old Furniture for cash Rs 600

Q2 From the following Trial Balance prepare Trading, (20)

Profit & Loss Account & Balance Sheet as on 21-3- 1007

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ME (Const. management) - Sem-I, Accounting Finance & Managerial  
 Date - 24/11/14

	Debit (Rs)	credit (Rs)
Capital		38000
Purchases	16000	
Sales returns	400	
Purchase returns		900
Furniture	6000	
Sales cash		12000
Sales credit		16000
Buildings	12000	
Opening stock	6000	
Sundry expenses	500	
Bills payable		900
Commission received		250
Rent and taxes	250	
Wages and salaries	7250	
Carriage inwards	250	
Carriage outwards	350	
Bills receivable	800	
Travelling expenses	600	
Bad debts	400	
Sundry debtors	10800	

Insurance Paid	300	
Postage	150	
Motor car expenses	1200	
Cash in hand	880	
Sundry creditors		4380
Motor Car	5800	
Closing Stock on 31-3-1997	Rs 12250	

Q 3 (a) Explain the salient features of Income Statement (8)

.Give a Pro forma of Multi step income Statement

(b) Prepare Multi step income Statement of Dream Flower (12)

company for the year ended 31-3-2001 from the following ..

Opening Stock	12000	Sales	1500000
Closing Stock	17000	Purchases	1000000
Carriage inwards	20000	Carriage Outwards	42000
Salaries	75000	Debenture Interest	20000
Interest paid	30000	Loss on sale of Machinery	30000
Rent	20000	Interest received	25000
Telephone Charges	12400	Advertisement	50000
Depreciation on Assets	32000	Interest on Bank deposits	14000
Dividend Paid	25000	Transfer to general Reserve	11000
Taxes	119800	Wages Paid	3000

24/11/14

Q4 What are the various sources of Short and Long Term (20)

Finance . Explain the features of Each

Q5 (a) Define Cash flow statement. Explain the steps involved (10)

in the preparation of Cash flow statement.

(b) What is Working Capital? List out the significance (10)

Of adequate Working Capital

Q 6 The Balance of XYZ Ltd as on 31 December 1996 and 1997 are (20)

as follows

Liabilities	1996	1997	Assets	1996	1997
Equity capital	3000000	3000000	Fixed assets	3600000	4240000

(10 Rs. Each)

Preference share 1000000 1000000 S.debtors 1100000 13 00000

(12%)

Reserves 1160000 1770000 Bills receivable 860000 1050000

10% debentures 600000 900000 Stock 760000 920000

Creditors 480000 640000 Prepaid Expenses 80000. 50000

Bills Payable 100000 140000 Bank Balance 120000 120000

Bank Overdraft 200000 240000 Preli. Expenses 20000 10000

During the year 1997 Sales were 180 00000/- and cash sales were 10% of Total sales. Stock turnover was 20 times. Net profit before payment of taxes at 40 % was Rs. 2250000. Calculate



Current Ratio, Liquid Ratio, Return on Capital Employed and Debt-Equity Ratio.

Q 7 Write Short Notes on any 4

(20)

- Circular flow of Working Capital\*Pro forma of Vertical form of balance sheet.\*Classification of Accounts\*Liquid assets

\*Activity Ratios \* Profitability Ratios .

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Lib  
21/11/14

# ME (Civil) Const. Manag., Sem-I

Sardar Patel College of Engineering  
Programme M.E Construction Management I Year  
Semester I, 2014 - 2015

MASPER

ME (Civil). Sem-I

Subject: Advanced Construction Equipment and Management

Max Marks: 100

Date:

Time: 4 hrs

**Instructions:** Candidates should read carefully the instructions printed on the question paper and  
On the cover of the answer book, this is provided for their use.

**NB:**

1. In all 5 questions to be attempted.
2. Answer to each question to be started on a fresh paper.
3. Figures on the right hand side indicate full marks.

Q.1	a) Elaborate on soil exploration program	10
	b) Explain Pit underpinning with figures	10
Q2	a) Explain compress air tunneling methods with figure.	10
	b) Elaborate on drilled pier foundation	10
Q3	a) What are the various problems and precautionary measures associated with installation of Caissons?	10
	b) Explain shoring in detail.	10
Q4	a) Explain the methods of rock tunneling.	10
	b) Elaborate on the various raw materials used for geosynthetics.	10
Q5	a) Elaborate on the applications of geosynthetics.	10
	b) Elaborate on High Performance Concrete and Rolled Compacted Concrete	10
Q6	a) Explain the thermal methods of stabilization of soil.	10
	b) Explain various antiliquefaction methods for soils	10
Q7	a) Elaborate on underground surveys with figure.	10
	b) Elaborate on various blasting and dewatering methods.	10

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Bharatiya Vidya Bhavan's  
Sardar Patel College of Engineering  
MUNSHI NAGAR, ANDHERI (WEST), MUMBAI-400 058.



M.E (Civil) with honn. mgt- sem I

Master.

Final – EXAMINATION, M. E. Civil (Sem - I), Nov. 2014  
SUBJECT – Applied Statistics and Optimization Techniques

Q.1.

- (a) Define Statistics. Discuss Different Components of Statistics (08)  
(b) Half hours traffic survey was carried out at D. N. Nagar Junction on 12.08.2012. it is observed that 50 number of vehicles crossed the section with average speed of vehicle in Km/hr is given bellow. (06)

25	27	39	31	45	27	26	24	41	45
49	43	43	45	46	45	31	38	38	42
39	48	55	54	55	54	53	53	59	57
59	57	33	36	36	39	33	32	39	37
41	40	40	50	50	30	30	40	46	47

Take the class interval of 5 and plot the following parameters.

- (i) Frequency Histogram & Frequency polygon  
(ii) Less than O gives Curve & Greater than O Gives Curve  
(iii) Upper and Lower speed Limit and speed for geometric design.

(c) First, Second and third Quartile

(06)

Q.2.

- (a) Discuss with an Example the term Balanced and Unbalanced Transportation Problem. (08)  
(b) A company has three plants A, B and C which supply two warehouses D, E, F and G. monthly plan capacity are 1500, 2500, 500 units respectively. Monthly warehouse requirements are 500, 1500, 1500, 1000 units respectively. Unit transportation costs are given in table. Obtain initial feasible solution by (i) N- W Corner Method. (ii) Least Cost Method (12)

	D	E	F	G	Supply
A	5	8	6	6	1500
B	4	7	7	6	2500
C	8	4	6	6	500
Demand	500	1500	1500	1000	

Q.3.

- (a) Discuss the terms with an Example  
(i) Parameters (ii) Precision (iii) Confidence Level (iv) Level of Significance. (08)

(b) A sample of 400 male students is found to have a mean height of 67.47 inches, can it be reasonably regarded as a sample from large population with a mean height of 67.39 inches and std. deviation 1.3 at 5 % level of significance. (06)

(c) Formulation of Linear Programming Problem (06)

Q.4.

(a) write short notes on (i) N- W Corner Method (ii) Least Cost Method (08)

(b) Solve the following problem by simplex method (12)

Maximise,

$$Z_{\text{Max}} = 3X_1 + 2X_2$$

Subjected to,

$$X_1 + 2X_2 \leq 6$$

$$2X_1 + X_2 \leq 8$$

$$-X_1 + X_2 \leq 1$$

$$X_2 \leq 2$$

For all  $X_1$  &  $X_2 \geq 0$

Q.5

(a) How will you apply the concept of probability in the field of Construction Management? (08)

(b) A container has 5 red balls, 10 white balls, and 35 blue balls. If the balls are selected randomly find the probability that (12)

(i) selected ball is red, white, blue.

(ii) either one red, five white and 20 blue

(iii) All balls are white, blue and red

Q.6.

(a) What is Point estimate, confidence interval, t - Distribution explain in detail. (08)

(b) A particular city is composed of 750 blocks and each block contain approximately 20 homes. 15 of 750 blocks are randomly selected and each household on the selected block is administered a survey concerning issues of interest to the city council. How large is the population and sample. What is the type of sampling being used. (12)

Q.7.

(a) Explain decision tree with suitable example. (10)

(b) Determine optimum order size which will maximize the daily profit of the store using (a) Laplace criteria (b) Maximin criteria for the following.

A retail store desires to determine optimum delay order size for perishable item. Store buys perishable item at the rate of Rs. 60 per kg and sales at Rs. 90 per kg. if the order size is more than demand the excess quantity can be sold at Rs. 75 per kg in secondary market otherwise opportunity cost for the store is Rs. 10 per kg for the unsatisfied portion of the demand. Based on past experience it is found that demand varies from 50 kg to 200 kg in steps of 50 kg. The possible values of order size are from 100 kg to 300 kg in the steps of 100 kg. (10)



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**End Semester Examination-Nov. 2014  
2014-2015**

*Master*

Class/Sem.: M.E. Civil (Construction Management) Sem. I (Full Time)

Subject: Construction Management and Organization

Max. Marks: 100

Duration: 4 hours

- Solve **any five questions** out of seven.
- Answer to all sub questions should be grouped together.
- Figure to right indicates full marks.
- Assume suitable data wherever necessary and state it clearly.

- Q.No.1. (a) Write short notes on: management thoughts by: (**any two**) (08)
- (i) F. W. Taylor;
- (ii) H. Fayol;
- (iii) E. Mayo.
- (b) Explain in brief: 'System approach' in the Management Process. (06)
- (c) What do you mean by 'stakeholder management' in the construction project? (06)
- Q.No.2. (a) What is the scope of construction management in the Indian infrastructure development projects? Highlight important issues related to it. (10)
- (b) Write short notes on following management systems: (10)
- (i) Benchmarking;
- (ii) Supply chain management.
- Q.No.3. (a) What is the role of behavioral science in the management process? Explain. (10)
- (b) How construction project delivery can be improved by using effective management as a tool? Explain. (10)
- Q.No.4. (a) Explain objectives of planning in construction and highlight how strategies and policies can be used for making planning more effective. (10)
- (b) What are the various types of organizations? Explain the role of organizational climate and group decision making in making organization more effective. (10)
- Q.No.5. (a) Explain the role of human resources department in any construction organization development. (10)
- (b) Write short notes on: qualities of project manager and explain role of organizational leader in team development and conflict management. (10)

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- Q.No.6. (a) What is motivation? Why it is important? What are the various ways of motivation in general? (10)
- (b) Write short notes on: monitoring and controlling in an organization and explain its process. (10)

- Q.No.7. Write short notes on: (**any four**) (20)
- (a) Organization culture.
  - (b) Risk management.
  - (c) Management by objectives (MBO).
  - (d) Need for management.
  - (e) Value management.

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*ME (Civil) (Constr. mang). Sem - I*  
**End Sem 2014**

*Master*

Sem: M E Construction Management / Sem 1, 2014

Subject: Safety Management

Note . Attempt any 5 Questions.

Each Question carries 20 Marks

Q 1 Explain the importance of safety. Highlight the (20)

causes and consequences of unsafe situation at Project Site

Q2 Explain various factors contributing to accidents from (20)

Fire and Electricity.

Q3 (a) Briefly explain the major hazards from Excavation. (10)

(b) List out Occupational Diseases from (10)

Construction operations

Q4 Define safety audit.. Explain various types of safety Audit (20)

Highlight the objectives of safety Audit and Broad areas of  
Evaluation.

Q5 Explain the salient features of US Occupational Safety (20)

And Health Act (OSHA)

Q6 Explain ILO's views on Safety management in Construction  
Industry.. What are the expected Role by ILO from \*Managers

MB (Civil / construct. manag). Sem - II, Safety Management

26/11/14

- Action at the National level \* Workers Organisations and at the International Level.

Q 7 (a) Briefly explain the various types of Mental Stress (10)

Arising out of construction activities

(b) Explain FIDIC and CPWD Conditions of Contract (10)

on Safety Management

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