

**UNIVERSITY OF BOLTON**  
**SCHOOL OF THE BUILT ENVIRONMENT &  
ENGINEERING**  
**BSc(HONS) CIVIL ENGINEERING**  
**SEMESTER TWO EXAMINATION 2008/2009**  
**CONSTRUCTION MANAGEMENT**  
**MODULE NO: BLT3007**

Date: Friday 29 May 2009

Time: 10.00 am – 1.00 pm

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**INSTRUCTIONS TO CANDIDATES:**

There are SIX questions.

Answer ANY FOUR questions.

All questions carry equal marks.

Marks for parts of questions are shown in brackets.

This examination paper carries a total of 100 marks.

A Normal Distribution table is provided.

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- 1.a. Describe the criteria to be satisfied if an exclusion clause is to be recognised and upheld by the courts.

(15 marks)

- b. Daphne is chairperson of the local Mother and Toddler Group.

Over the years, inadequate attention has been given to the essential maintenance of the Group's meeting room. The room is currently in a dilapidated condition and has been closed pending future refurbishment. Unfortunately the Group, an unincorporated organisation, has insufficient funds to carry out the necessary works.

Daphne has secured several promises of cash donations from local businesses amounting to £15,000. She estimates that this, together with the proceeds from a proposed fundraising event, should ensure sufficient funds to refurbish the changing facilities.

Daphne contacts ABC Builders and asks them to quote for the refurbishment. She explains that the current single room accommodation must be converted to provide a playroom with toilet and changing facilities and a separate meeting room. ABC offer to do the work for £20,000. Daphne is so confident that the planned event will raise £5,000 that she verbally accepts the offer and pays ABC £20,000 in advance out of her savings.

However, Daphne did not anticipate a downturn in the economy which led not only to the cancellation of the fundraising event but also to the withdrawal of most of the promised cash donations.

When ABC finish the refurbishment, Daphne inspects their work and finds that there is no playroom and that the toilet has no changing facilities. Daphne obtains a quote of £6,000 (from another builder) to put the work right.

Analyse the above situation taking all circumstances into account and advise Daphne of her rights and responsibilities in general and her relations, whether contractual or otherwise, with all parties.

(10 marks)

**Total 25 marks**

**Please turn the page**

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2. Botlon Football Club have agreed to sell their ground to a housing developer. The developer insists that the ground is to be handed over immediately following the last home game of the season in April 2010. Botlon FC are committed to building a new stadium to be ready for use in August 2010. Although they have already acquired the site for the new stadium, the directors of the club are anxious not only about what they perceive to be a tight schedule for construction of the new stadium but also about arrangements for paying the contractor.

They are considering using the ICE Conditions of Contract 7<sup>th</sup> edition for construction works. Advise the directors on the following issues:

- I. Events that might entitle the contractor to an extension of time (6 marks)
- II. Provision for expediting progress and accelerating completion (6 marks)
- III. The process by which the contractor receives payment. (13 marks)

**Total 25 marks**

3. a. Much work in construction is carried out by groups or project teams. Describe the culture that you would associate with such groups. (10 marks)
- b. Describe the three schools of thought that represent the Classical Organisation Theory and summarise their common features. Assess the contribution of the Classical Theory to the accepted knowledge of modern organisations. (15 marks)

**Total 25 marks**

4. Discuss the concept of the psychological contract and assess its correlation with McGregor's Theory X and Y. 25 marks

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5. a. Assess the importance of working capital to the commercial organisation. (9 marks)
- b. Table Q5 shows the monthly estimated costs for a construction project. At the time of preparation, the contractor expected a profit margin of 8% on these figures.

However, the contractor has discovered an estimating error and he now expects that the profit will be reduced owing to his costs being 4% higher than estimated. He intends to recover 4% of the actual incurred total costs through a claim, which he assumes will be paid 3 months after practical completion.

Payment conditions for the project state that payment less retention will be made one month after the costs have been incurred. The retention is to be 10% and will be repaid in full 6 months after practical completion. The contractor anticipates completing the work within 4 months.

Prepare a cash flow forecast for the contract and, assuming an interest rate of 10%, calculate the cost of working capital up to end of month 5.

Month	1	2	3	4
Estimated Cost (£'000)	20	25	28	15

TABLE Q5

(16 marks)

**Total 25 marks**

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6. a. Table Q6 shows the programme for bridge strengthening works. Calculate the probability of completing the works within 29 weeks.

Activity	Optimistic Duration (weeks)	Most likely duration (weeks)	Pessimistic duration (weeks)
1 – 2	4	6	9
2 – 3	3	5	6
2 – 4	5	8	10
3 – 5	1	2	3
4 – 6	2	4	7
5 – 6	5	9	12
5 – 7	4	6	8
6 – 8	6	10	15
7 – 8	3	5	7

Table Q6

(12 marks)

- b. Describe Reason's original model of the causes of accidents and the modifications proposed by recent research.

(13 marks)

**Total 25 marks****END OF QUESTIONS**