

CEX 4238 - QUANTITY SURVEYING



FINAL EXAMINATION - 2014/15

Time Allowed: Three (03) hours

Date: 2015 - 08 - 05 (Wednesday)

Time: 0930 - 1230 hrs.

The paper consists of Eight (08) questions. Answer any Five (05) questions. All questions carry equal marks. Write down your Index Number clearly on the answer script.

If you have answered more than five questions (either partly or in full), cross out the answers. Otherwise, only the first five answers appearing in the answer book will be evaluated.

Q1.

- List out the various stages of a construction project and the Quantity Surveyor's duties corresponding to each stage. (5 marks)
- Identify the role and functions of the members of a construction/building project in design stage of a project. (5 marks)
- State the primary functions of a Quantity Surveyor in a building project. (5 marks)
- Identify the role and function of the contractor, consultant and employer in implementing a new building project. (5 marks)

Q2.

- Explain what is meant by a specification and the use of specifications in the building construction. (4 marks)
- Use dimension paper and take off the items below: (6 marks)
 - * 3 rows 0.75m long \times 0.25m wide \times 2m high free standing blocks 6 in each row
 - * Area of 2 no. of metal sheets 5 mm thick semi-circular in shape having a diameter of 1.8m each
 - * Volume of three free standing columns 0.5m in diameter \times 3.0m high
- Discuss the data needed to calculate the cost per square meter of a reinforced concrete first floor slab where mechanical mixing of concrete is employed. Assume that the mechanical mixer is hired. (5 marks)
- State the necessary requirements that should be provided to contractor to design a suitable concrete mix. (5 marks)

Q3.

- (a) Explain briefly the straight line depreciation. (5 marks)
- (b) Discuss how cost of equipment is estimated /calculated for small and non-mechanical plants and for power driven mechanical tools. (5 marks)
- (c) If the equipment with a total initial cost of Rs. 200,000.00 had an estimated salvage value of 30,000.00 after 4 years determine the average value of equipment and the cost of depreciation on hourly basis. (5 marks)
- (d) What do you understand by the term 'Break Even Point'? Explain the significance of the term in construction related projects. (5 marks)

Q4.

- (a) Explain what is meant by a discount rate and the necessity of having a discount rate for building projects. (5 marks)
- (b) Describe the factors that depend on the selection of discount rates for building projects. (5 marks)
- (c) A building client is expecting to have to replace various engineering services in a building in eight years' time and these are expected to cost Rs. 1,500,000. What sum should he invest now to provide sufficient funds at an operative interest rate of eight per cent? (5 marks)
- (d) Estimate the quantity of materials for 1:2:4 cement concrete mix required for cement concreting one kilometre length of a 3.70m wide road, the thickness of concrete being 10cm. (5 marks)

You may assume the following:

Density of cement – 1440 kg/m³

Density of sand - 1600 kg/m³

Density of coarse aggregate - 1350 kg/m³

Water cement ratio – 0.5

Shrinkage of concrete - 40%

Q5.

- (a) 'Designing to Cost' is an important aspect at the early stages of a project design. Discuss the possible methods to be used in adopting this concept. (10 marks)
- (b) Discuss the cost implications of the characteristics of shape, size & storey height of buildings. (10 marks)

Q6.

- (a) State the definition of Quality as per ISO standards. Explain the required quality standards for a building housing an educational institution in Sri Lanka with particular reference to optimizing of construction and maintenance cost. (10 marks)
- (b) The Building and Environmental regulations stipulate specific requirements for building constructions within the urban limits. Discuss these requirements for a shopping complex to be constructed in a busy township area already congested with existing buildings. Assume that an existing old building has to be demolished in the process. (10 marks)



Q7)

Describe the basic requirements in law in order to fulfil a contract and outline five different types of contract used in the construction of buildings, very briefly explaining each. (20 marks)

Q8)

- (a) Comprehensive site records are required for effective controlling and monitoring all activities on the site. They will be very important in the settlement of disputes. Outline the types of site records to be maintained on building construction sites. (10 marks)
- (b) Describe a 'contractual claim' and outline the extra documentation required for preparation of contractual claims in addition to the above mentioned data in section (a). (10 marks)

