
ASSIGNMENT 02: 682799

MCL1501



Question 1

The 7 fields of engineering are:

1. Construction
2. Water
3. Environmental
4. Structural
5. Transportation
6. Urban
7. Geotechnical

Construction engineering works with construction methods, construction materials and construction management of the project

Water engineering deals with physical and managerial water problem.

Environmental engineering deals with the conservation of natural resources and the impacts that development might have on the affected community.

Structural engineering deals with structural theory, applied mechanics and evaluation of structures.

Transportation engineering deals with the planning, design, construction, maintenance and operation of transport facilities.

Urban engineering deals with the planning, design and construction of infrastructure for towns and cities.

Geotechnical engineering does assessments of the ground conditions.

Question 2

There are 6 guidelines to promote sound human relations:

1. Communication
2. trust
3. open-mindedness
4. positive attitude
5. Appreciation
6. networking

Communication is key for expressing your feelings and your thoughts to other people.

Without **trust**, people would be afraid to express their true feelings and productivity decreases. If there is trust present, then this would lead to a productive environment.

Managers must be **open-minded** to consider the views and ideas of others. This will help them be more effective.

A **positive attitude** will inspire and encourage others, while a negative attitude can negatively affect the effectiveness of production.

Appreciation will help motivate and to stay focused on their task, while no appreciation could harm human relations.

Networking is used by people across different departments to share ideas of failures and successes of projects and to offer help where needed.

Question 3

The 9 factors are:

1. materials used
2. quality
3. environment concerns,
4. cost and economic viability
5. safety
6. ease of maintenance
7. aesthetics
8. moral and ethical concerns
9. construction and production concerns

Question 4

The 7 guidelines for a successful budget are:

1. **Have the right attitude**
Get a budget that work for you and your company.
2. **Who should develop the budget**
The managers of the various departments.
3. **Be able to explain your budget**
You must be able to explain and justify your reasons for your choices.
4. **Don't let the budget procedures frustrate you**
Be productive and suggest ideas to improve the budgeting system
5. **Develop a system**
Develop a system that will help you when there is little time and under pressure.
6. **Keep the budget future orientated**
A budget may change or vary from predicted course.
7. **Chose an appropriate budget period**
A budget is usually a financial period. By dividing it up, it will allow you to have more control and to allow for corrective action.

Question 5.1

The 7 cost items are:

1. utilisation time ✓
2. operator cost ✓
3. fuel and lubricants ✓
4. insurance ✓
5. transport charges ✓
6. conditions of equipment ✓
7. cost of equipment ✓

Question 5.2

List of considerations to consider when planning and mobilising plant and equipment:

1. ensure that the plant or equipment is clean and maintained ✓
2. used for the task it was meant for ✓
3. ensure that machinery is safe ✓
4. keep records. ✓
5. The type and size of plant/equipment ✓
6. The number of trucks and trailers needed to transport plant or equipment ✓
7. Rates to be paid ✓
8. Plant/equipment measurements ✓
9. Permits required ✓
10. Governmental laws that affect the mobilisation of equipment ✓

Question 6

A business plan is a formal document containing a mission statement, market analysis, description of the firm's goods and services, financial projections and descriptions of management strategies for attaining goals. ✓

A business plan is the consolidation of various departmental budgets. ✓

The main uses are to raise funds and as a guide for management to achieving company's strategic and operational business goals ✓

Enables management to assist in planning, organising, leading and control of strategic and tactical objectives ✓

Enables management to ensure survival and the growth of the company. ✓

