

University of Abou Bakr Belkaid
Faculty of Technology
Civil Engineering Department
1st Year Master

Teacher : Miss HAMIMED N.

English Exam
(The corrected)

1. Answer the following questions : (6.5 points)

- What is steel's combination ? **Steel is an alloy of iron and carbon.**
- How do we get wrought Iron ? **Pig iron is melted in such a way as to remove all of the carbon and other impurities, the result is wrought iron.**
- How do we get Cast Iron ? **Pig iron ► re melted with limestone and coke and poured into moulds of desired shapes and sizes to get purer product known as cast iron.**
- Types of bridges based on materials are : **Steel bridge- timber bridge- masonry bridge- reinforced cement concrete bridge- pre-stressed bridge.**
- Types of dams based on function are : **storage dams- debris dams- coffer dams- diversion dam and detention dams.**
- The main components of concrete are : **concrete consists of a cement paste, aggregates (fine and coarse), and in some cases, other materials.**

2. Name the following tunnels : (3points)

- They carry water, sewage or gas lines across great distances. **Public work tunnels**
- They are used during ore extraction, enabling laborers or equipment to access mineral and metal deposits deep inside the earth. **Mine tunnels**
- The Holland Tunnel, completed in 1927, was one of the first roadway tunnels and is still one of the world's greatest engineering projects. Named for the engineer who oversaw construction, the tunnel ushers nearly 100,000 vehicles daily between New York City and New Jersey. **Transportation tunnel**

3. Complete the following structural elements : (2points)

- Colomns-Beams- Plates- Arches- Trusses - Shells - Catenary**

4. Classify the following words and phrases with their definitions : (5 points)

- **Turnkey project** : Building or installation which is built, supplied, or installed complete and ready to operate.
- **Maintenance** : Activities carried out after the project to ensure problems are solved.
- **Technical drawings** : Detailed plan of proposed structures.
- **Specifications** : Dimensions and measurements.
- **Soil mechanics** : Extensive investigation to evaluate the load-bearing qualities and stability of the ground.
- **Feasibility study** : Investigation to assess both financial and engineering aspects of a project.
- **Tender** : Offer of a bid for an engineering project.
- **Costing system** : Procedure to monitor the costs of a project so that management can get information on development.
- **Site investigation** : Study of a proposed location to assess geology of the area.
- **Commission a project** : To order a plan to be carried out.

5. Translating into French (3.5 points)

The various characteristics and overall quality of concrete is determined by the exact proportioning and mixing of the ingredients used therein. For instance, when a mixture doesn't have enough cement paste, then the empty spaces between the aggregates creates a rather porous concrete that's hard to place and has a rough surface. On the flipside, if you use too much cement paste, then the concrete will be smooth, but it'll crack more easily. Generally speaking, high-quality concrete is made from as low of a **water-cement ratio** as possible, as long as the mixture can still be properly worked with, placed, and cured. The **water-cement ratio** is the weight of the water used divided by the weight of the cement.

Les différentes caractéristiques et la qualité globale du béton sont déterminées par le dosage et le mélange exacts des ingrédients utilisés. Par exemple, lorsqu'un mélange ne contient pas assez de pâte de ciment, les espaces vides entre les agrégats créent un béton plutôt poreux, difficile à placer et dont la surface est rugueuse. D'un autre côté, si vous utilisez trop de pâte de ciment, le béton sera lisse, mais il craquera plus facilement. En règle générale, le béton de haute qualité est fabriqué avec un rapport eau-ciment aussi faible que possible, à condition que le mélange puisse encore être correctement travaillé, mis en place et durci. Le rapport eau / ciment est le poids de l'eau utilisée divisé par le poids du ciment.