

**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 : 9 points***

- Define non-ferrous metals: **Wherein iron is not the main constituent.**
- Steel is an alloy of **iron and carbon.**
- The types of steel based on their chemical composition are: **Carbon steel, alloy steel, stainless steel and tools steel**
- 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 super structures are: **Arch bridge, girder bridge, truss bridge and suspension bridge.**
- Types of bridges based on materials are: **timber bridge- steel bridge- masonry bridge- reinforced concrete bridge- prestressed concrete bridge.**
- The types of dams based on function are: **Storage dam-Diversion Dam- Detention Dam Debris dam- Cofferdam**
- The basic shape of rigid dam is **triangular**
- The basic shape of non-rigid dam is **Trapezoidal**
- ***Give the appropriate term to each definition given below. (3points)***
- **Beam** is a structural member, usually horizontal, with a main function to carry loads cross-ways to its longitudinal axis.
- **Foundation** supports a building or structure.
- **Load** is an outside force that affects the structure or its members.
- **Span** is the distance between supports.
- **Pitch** is the slope of a member defined as the ratio of the total rise to the total width.

- **Continuity** is the term given to a structural system describing the transfer of loads and stresses from member to member as if there were no connections.

**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 mechanicals**: 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 points)**

Dans le cas du pont à poutres, la dalle du pont est soutenue par des poutres. La poutre peut être une poutre en acier laminé ou une poutre en plaque ou une poutre-caisson. Les charges provenant du pont sont prises par les poutres et transférées vers les piliers et les culées.