Menoufia University
Faculty of Engineering, Shebin El-Kom
Civil Eng. Department
Final Examination,2017-2018
Date of Exam / 1 / 2018

Subject: Construction Engineering
Code:
Year : Diploma (Level 500)
Time Allowed : 3 hours
Total Marks : 100 marks

- Systematic arrangement of calculations, neat drawings and clear answers are essential.
- Any data not given can be reasonably assumed. The exam consists of five questions. All of them must be answered. All dimensions in meter.

(Only Course Notes are allowed)

Answer the following questions:

1- What are the effect of concrete grade, type and properties on the constructability process in construction projects?
2- Mention 10 different modern technological techniques or methods used in buildings, bridges or tunnels construction?
3- What is the meaning of the following?
   - Durability
   - Sustainability
   - Constructability
   - Salvage value
   - Life cycle cost
4- What are the basic differences between slip form technique and tunnel form technique in construction projects? show your answer with figures and sketches?
5- Lift slab technique and push up system are very effective in residential buildings explain ?
6- Tilt up system and companied technique are very economic in industrial application, explain?
7- What are the relation between quality, performance and cost?
8- Value engineering, value analysis and value managements are a very powerful tools in construction projects, explain?
9- What are the history of value engineering techniques from the origin till now?
10- Define the followings:
   - Value engineering
   - Value analysis
   - Value management
   - Fast diagram
   - Barito law
   - High order function

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Examiner Prof. Dr. Khaled Heiza, Professor of reinforced concrete structures, khheiza@yahoo.com

- Low order function
- Basic function
- Quality business model
- Fixed cost

11- If you want to buy a car, how can you used QBS model to calculate the value index using the given:

No.	Type	Model	price
1	Subaru	Forster	30.000 USD
2	Honda	RDV4	28.000 USD
3	Suzuki	Vetara	25.000 USD

12- For the following projects, what are your suggestions using new and modern building systems for each:

- Wear house
- New airport terminal
- Water treatment plant
- Handy cap hospital
- Shopping mall

13- For value engineering team selection for a hospital, what are the different participations of the team?

14- What are the difference between leader and manager?

15- How can you develop V E study in your work or business?

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