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DEPARTMENT OF QUANTITY SURVEYING
SCHOOL OF ENVIRONMENTAL TECHNOLOGY
FEDERAL UNIVERSITY OF TECHNOLOGY MINNA

B. TECH QUANTITY SURVEYING

SECOND SEMESTER EXAMINATION, 2018/2019 ACADEMIC SESSION

QTS323- CIVIL ENGINEERING CONSTRUCTION I

INSTRUCTION: ANSWER SIX (6) QUESTION ONLY

TIME ALLOWED: 2 HOUR

QUESTION ONE

- A. As a professional member of the design team, you feel that there is need for proper site investigation before final drawing, but some members of the design team feels there is no need. As such state the aim of determining the site investigation to the design team.
- B. As a Quantity Surveyor, how do you view rock for the purpose measurement?

QUESTION TWO

- A. The choice between various method of soil exploration will depend upon certain factors. Briefly explain the factors.
- B. The construction of embankment and design profile of the slopping site (cutting) depend on some number of factors. State those factors in details

QUESTION THREE

- A. There are many ways ground water can be controlled during construction period. List and explain some of those methods.

QUESTION FOUR

- A. Driving in panel is a very satisfactory method of positioning sheet piles and ensuring that the pole do not creep out at verticality. With the aid of diagram only, explain the following method of positioning sheet piles.
 - 1. Driving sheet pile in panel (timber)
 - 2. Reinforced concrete sheet pile.
- B. Briefly explain the following:
 - 1. Vibro-floatation
 - 2. Vibro- replacement

QUESTION FIVE

- A. The strength of subgrade determine the thickness of the pavement needed and should therefore be made as high as possible outline the method used to achieve the desired sub-grade strength.
- B. With the aid of diagram only explain the use of sub- soil drain to intercept ground water.
- C. With the aid of diagram only provide a section through earth dam with clay center and cut- off wall.

QUESTION SIX

- A. The choice of material and type of cofferdam will depend upon certain upon certain condition. Outline those condition.
- B. Outline the factors considered in selecting a suitable cofferdam for a specific problem.
- C. Differentiate between cofferdam and caisson, under what condition can caisson be used

QUESTION SEVEN

- A. With the aid of diagram only explain the following type of bridges
 - 1. Beam bridge
 - 2. Arch bridge
 - 3. Suspended bridge
- B. In airfield construction, explain the following with the aid of diagram.
 - 1. Rigid pavement
 - 2. Composite pavement
 - 3. Flexible pavement

GOOD LUCK.