

PWO – Site Management Works

T023

Thursday, 22/11/2018

08:30 – 11:30 AM

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2018,
TECHNICAL AND PROFESSIONAL STUDIES**

EXAM TITLE: SITE MANAGEMENT WORKS

OPTION: Public Works

DURATION: 3 hours

INSTRUCTIONS:

The paper is composed of **the following sections:**

Section I: Fourteen (14) compulsory questions. 55 marks

Section II: Attempt any three (3) out of five questions. 30 marks

Section III: Attempt any one (1) out of three questions. 15 marks

The use of calculator is admitted

Note:

Every candidate is required to carefully comply with the above instructions. Penalty measures will be applied on their strict consideration.

Section I. Fourteen (14) Compulsory questions**55 marks**

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01. As a public works candidate, explain in brief what is the meaning of:
"a project". **(2 marks)**
- ✓ 02. In road construction activities there are so many types of materials used.
Identify at least five types of materials used for road construction. **(5 marks)**
- ✓ 03. In the construction site the storage and stacking of the materials should be
definitely set on the ground in the site. Identify the proper way for storing
cement on site. **(2 marks)**
- ✓ 04. ABC system is one of materials storing system, where stocks are divided into
three categories (A,B,C) according to importance of sales value. Referring to
the following stocks of category A with 38% of total stock items, category B
with 12% of stock items and category C with 50% of total stock items. What
category will you care a lot and why, if the % stock values are 18%, 72% and
10% respectively? **(4 marks)**
- ✓ 05. Provide the measurement units for the following activities:
- Cut and fill. - Spraying the road primer. - Making a trench. **(3 marks)**
- ✓ 06. Most of the time, while creating new road construction there are so many
challenges, such as the existing infrastructure. Identify problems related to
the infrastructure and location. **(5 marks)**
- ✓ 07. Sometimes, project may delay due to various reasons. Identify at least four
causes which may result in the project delay. **(4 marks)**
- ✓ 08. For every construction there are some activities done before commencing the
project. Identify all activities that could be done before starting the project in
question. **(4 marks)**
- ✓ 09. Road has to be constructed on the good soil foundation. What are the main
points to focus for road construction without a foundation? **(5 marks)**
- ✓ 10. What are the main objectives of stock control? **(3 marks)**
- ✓ 11. Explain the terms: - Datum and - Contour line. **(4 marks)**
12. State at least three most important duties of site manager at construction site.
(4 marks)

13. While making bid of any tender, there is a document in which includes the " terms of reference " Explain the information found in terms of reference. **(5 marks)**
14. What is meant by "construction management"? What are three (3) different ways a construction manager may be appointed? **(5 marks)**

Section II. Choose and Answer any three (3) questions 30 marks

15. Sometimes, dispute on construction site cannot be friendly resolved by the involved parties. Discuss briefly the following methods of dispute resolution: Settlement of disputes, mediation, arbitration, litigation. **(10 marks)**
16. Sort following expressions under the headings of "optimize", "minimize" and "maximize": cost, material loss, material logistic, resource consumption, time, transport, transport times, waste, work and operation efficiency, work safety. **(10marks)**
17. Discuss briefly about the role and organisation of regular meetings held on a construction site. **(10 marks)**
18. Discuss briefly the keeping, handling and updating of the daily job diary records of a construction site. **(10marks)**
19. Use the concept of "reduce, reuse, recycle, revitalize" to explain the sustainable waste management system on a construction site. **(10marks)**

Section III. Answer any one (1) question 15 marks

20. Very few sites are level and therefore before any building work can be commenced the area covered by the building must be leveled. In building terms this operation is called reducing levels.
What are the three (3) methods can be used? *middle level* **(15 marks)**
21. The choice and design of foundation for domestic and small types of buildings depends on two factors. What are those factors? **(15 marks)**

- 22.** Make a bills of quantity including taxes for the following items required to perform the road rehabilitation:
- a. Demolition of reinforced tarmac with aid of cutting machine this is lump sum of 2,500,000 francs without taxes
 - b. Spray the blinding concrete of 12 m x 6 m of 5 cm thick on the area to be rehabilitated. With unit price of 180,000 francs without taxes
 - c. Reinforced tarmac of 15 cm thick extended on the same sizes as the area to be rehabilitated, with unit price of 320,000 francs without taxes.

(15 marks)