

2901/302
PROJECT MANAGEMENT
June/July 2022
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN PETROLEUM GEOSCIENCE

MODULE III

PROJECT MANAGEMENT

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Mathematical tables/a non programmable scientific calculator (Fx-82).

This paper consists of EIGHT questions.

Answer any FIVE (5) questions in the answer booklet provided.

Maximum marks for each part of a question are as indicated.

Candidates should answer the questions in English.

This paper consists of 4 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

1. (a) Explain five reasons that make work break down structures an important tool in project planning. (10 marks)
 - (b) Explain each of the tools used in the quality control process:
 - (i) testing;
 - (ii) pareto diagrams. (4 marks)
 - (c) Explain three techniques that may be adopted in a project to motivate participants. (6 marks)
2. (a) Explain four techniques that may be adopted to resolve conflicts among project team members. (8 marks)
 - (b) A client has demanded that a project be delivered earlier than scheduled. Explain four ways in which the project schedule may be crashed to meet this demand. (8 marks)
 - (c) Outline four reasons that make it necessary for a project team to hold status meetings. (4 marks)
3. (a) Explain four benefits of project scheduling. (8 marks)
 - (b) Table I shows cash flows of a project.

Table I

Year	0	1	2	3	4	5
Outflows Ksh.	150,000	30,000	—	—	—	—
Inflows Ksh.		20,000	30,000	60,000	80,000	30,000

The salvage value at the end of 5 years is Ksh. 40,000 and the company's discount factor is 10%. Calculate the net present value of the project. (12 marks)

4. (a) Explain four circumstances under which a project manager may be unable to achieve project goals. (8 marks)
- (b) Explain two options available to a project manager where a project receives insufficient financing. (4 marks)
- (c) Explain four factors that may influence project selection in an organization. (8 marks)

5. (a) Project managers should ensure that out-sourced products meet quality standards. Outline the criteria that should be used when choosing among sellers of such products. (8 marks)
- (b) Outline **four** characteristics of an effective project monitoring report. (4 marks)
- (c) Wazi Limited intends to invest in a machine to replace its malfunctioning one. The new machine which costs Ksh. 420,000 will increase annual revenue by Ksh. 200,000 and annual expenses by Ksh. 50,000. The machine is estimated to have a useful life of 12 years. Calculate the accounting rate of return (ARR) for the machine. (8 marks)
6. (a) Some managers archive project information as a resource for future project teams. Explain **three** items that should be included in such archive. (6 marks)
- (b) Explain **five** limitations of the pure project organization structure. (10 marks)
- (c) Outline **four** responsibilities that should be included in the job description of a project manager. (4 marks)
7. (a) Explain **three** ways in which a project manager may demonstrate effective leadership. (6 marks)
- (b) Outline **two** differences between project management and operations management. (4 marks)
- (c) Table II shows the links between an activity and the preceding or succeeding activities in a project schedule.

Table II

Activity	Predecessors	Followers
A	—	B
B	A	D
C	A	F
D	B	G
E	B	H
F	C	H
G	D	I
H	E, F	I
I	G, H	—

Draw the corresponding activity on a node network.

(10 marks)

8. (a) Explain **five** objectives that a project manager may seek to achieve by adopting the inspection technique of project evaluation. (10 marks)
- (b) (i) Differentiate between hard success criteria and soft success criteria in relation to project evaluation.
- (ii) Explain **three** soft criteria that a project manager may consider in determining project success. (10 marks)

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