ABIMBOLA OLUWAFEMI GIDEON

MATRIC NUMBER: 18/ENG05/002

DEPARTMENT: MECHATRONICS ENGINEERING

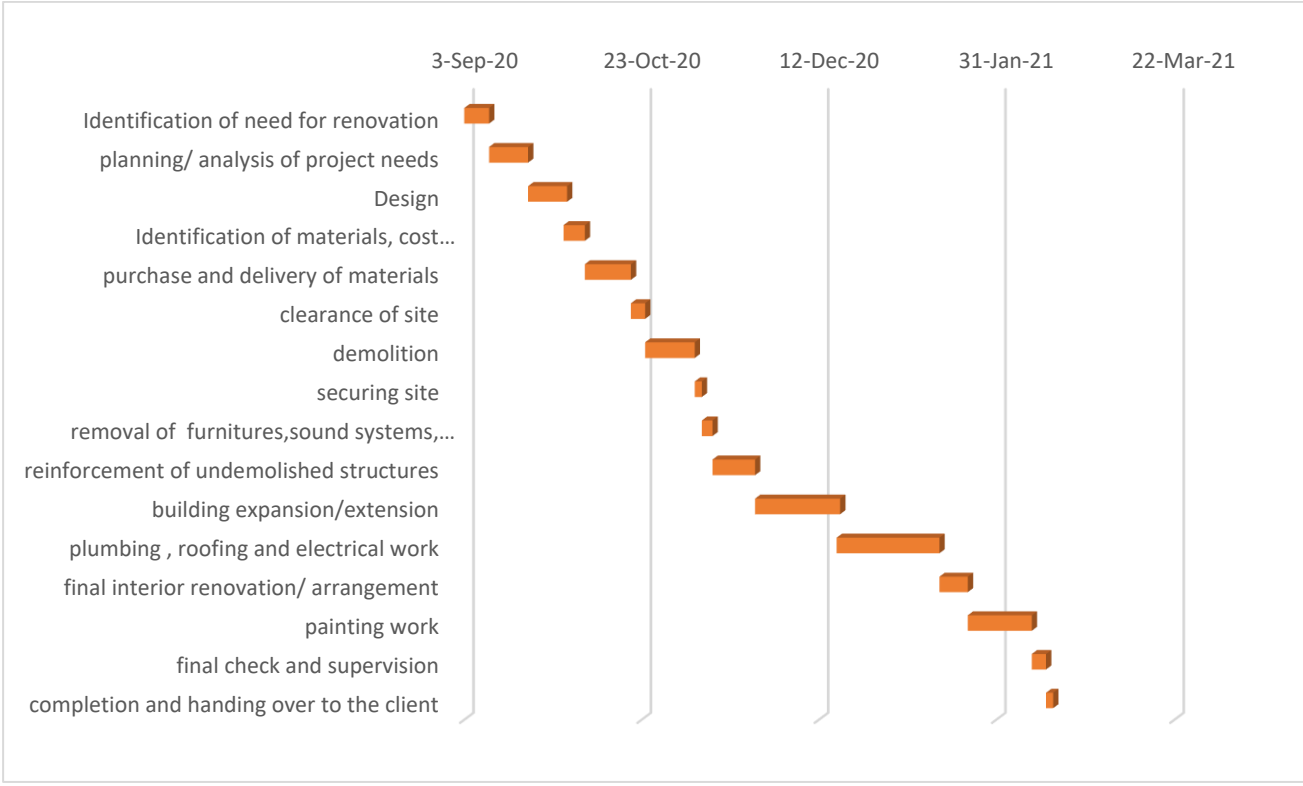
THE ENGINEER IN THE SOCIETY ASSIGNMENT

THE REHABILITATION OF THE ALPHA BELGORE HALL

Question 1: **Scope of work**

1. Identification of need for renovation
2. Planning/ analysis of project needs
3. Design
4. Identification of materials, cost evaluation and negotiation
5. Purchase and delivery of materials
6. Clearance of site
7. Demolition
8. Securing site
9. Removal of furniture, sound systems, air conditioners
10. Reinforcement of undemolished structures'
11. Building expansion
12. Plumbing, roofing and electrical work
13. Final interior renovation/arrangement
14. Painting work
15. Final check and supervision
16. Completion and handing over to the client

QUESTION 2: PROJECT GANTT CHART



Question 3: Project team

The team for this rehabilitation project will constitute the following human resources

1. A consultant engineer
2. A building engineer
3. An electrical engineer
4. Builders
5. Carpenter

The lead consultant is the consultant engineer.

Question 4: Reason for securing the site

The site was secured so as to avoid posing any danger to the human life in its surrounding. Securing the site also ensured controlled and limited movement which helps to prevent theft and damage of parts of the property. All renovation activities are carried out without public disturbance when a site is secure. Also no criminal or immoral act will be done on the site. Night guards help in the maintenance of the site security.

Question 5: BEME (BILL OF ENGINEERING MEASUREMENTS AND EVALUATION)

46,

S/N	Activity/item	Quantity	Amount
1	Design		150,000
2	Demolition		350,000
3	Securing the site		200,000
4	reinforcement		2,000,000
5	Building extension/expansion		25,000,000
6	Plumbing work		1,000,000
7	Roofing work		15,000,000
8	Electrical work		1,500,000
9	painting		2,500,000
			Total Estimated Cost(TEC)=46,800,000
10	Miscellaneous		10% of TEC=4,680,000

11	Consultancy fee		15% of TEC=7,020,000
12	Site preparation and clearing after completion		5% of TEC=3,840,000
13	Transportation cost		12% of TEC=5,616,000
14	Profit		20% = 0.2 +1=1.2^0.5=1.095*9,360,000=10,249,200 (LUMP SUM CALCULATION OF PROFIT)

Question 6: **PAYMENT SCHEDULE**

		TEC=#46,800,000
S/N	ITEM	AMOUNT
1	Mobilization	30% of TEC=14,040,000
2	At 50% completion	30% of TEC=14,040,000
3	Final payment at completion and hand over	40% of TEC=18,720,000
4	6 months Defect liability period	10% of TEC=4,680,000
		Total payment schedule =#51,480,000

QUESTION 7

BEME: it is an abbreviation for Bill of Engineering Measurement and evaluation. It is a tool used before, during and post- construction to assess and value the cost of construction works. This includes the cost of materials, labour, equipment, and all/any other resources required for the successful completion of a project/construction on a predetermined scope and specification. The BEME(Bill Of Engineering Measurement and Evaluation) is usually presented in a tabular form and prepared in work packages or categories by a process of '' taking off'' which involves identifying and breaking down all elements of a construction work that is measured ;including their respective cost.

DEFECT LIABILITY PERIOD

A defects liability period is usually a period of time within a contractor will be held accountable for any defects that appear upon the completion of a project/construction. It may be referred to as a rectification period or defects correction period. A defects liability period is usually a period of around 6 or 12 months but it can vary depending on the contract used.

LEAD CONSULTANT

The lead consultant is the consultant that directs the work of the consultant team and is the main point of contact for the communication between the client and the consultant team. They are team leaders who analyse and review proposals from the team, providing appropriate solutions to problems, and making decisions on the way forward by acting as liaisons between the client and the consultancy team.

PROJECT LIFE CYCLE

This is the sequence of phases/processes that a project must go through from the starting point to the point where the project is completed. Each phase/process has a definite start, end , and control point and are constrained by time'. The project life cycle can be defined and modified as per the needs and aspects of the organization.

ENVIRONMENTAL IMPACT ASSESSMENT(EIA)

It can be defined as the systematic examination of unintended consequences of a development project or program, with the view to reduce or mitigate negative impact and maximize on the positive ones. It is also seen as the process of evaluating the likely environmental consequences of a proposed project or development, taking into account the inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.