**NAME: Ibrahim Abdullah Ibrahim**

**MATRIC NUMBER: 19/ENG06/027**

**DEPARTMENT: MECHANICAL ENGINEERING**

**COURSE TITLE: ENGINEER IN THE SOCIETY**

**COURSE CODE: ENG 284**

**ASSIGNMENT TITLE: ENGINEERING CONSULTANCY**

**ANSWER TO QUESTION 1**

The scope of work of alfa belgore rehabilitation project is outlined below

1. Civil works
   1. Repair damaged walls and structural defects
   2. Procure and Replace damaged tiles
   3. Procure and Replace damaged ceiling
2. Mechanical and plumbing works
   1. Procure and replace damaged water closets
   2. Procure and replace damaged taps
   3. Procure and replace damaged doors
   4. Procure and upgrade damaged windows
3. Electrical works
   1. Procure and replace damaged light fittings
   2. Repair damaged air conditioning
   3. Procure and replace damaged fans
   4. Upgrade public address system
   5. Replace damaged projector
4. Painting and Furnishing
   1. Repainting of entire building
   2. Procure and replace damaged furniture

**ANSWER TO QUESTION 2**

Gant chart of the Alfa Belgore Hall project (continued on the next page)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **Task Description** | **Duration (Days)** | **start** | **finish** |
|  | Rehabilitation of Alfa Belgore Hall | **68** | **1/4/2020** | **9/6/2020** |
| **1** | **SITE MOBILIZATION** | **6** | **1/4/2020** | **7/4/2020** |
| 1.1 | Mobilization of men | 3 | 1/4/2020 | 4/4/2020 |
| 1.2 | Mobilization of materials | 2 | 5/4/2020 | 6/4/2020 |
| 1.3 | Mobilization of equipment | 1 | 7/4/2020 | 7/4/2020 |
| **2** | **REMOVAL** | **17** | **8/4/2020** | **24/4/2020** |
| 2.1 | Remove damaged structures | 3 | 8/4/2020 | 10/4/2020 |
| 2.2 | Remove damaged tiles | 2 | 11/4/2020 | 12/4/2020 |
| 2.3 | Remove damaged plumbing materials | 3 | 13/4/2020 | 15/4/2020 |
| 2.4 | remove damaged doors | 2 | 16/4/2020 | 17/4/2020 |
| 2.5 | Removal of damaged ceiling | 5 | 18/4/2020 | 22/4/2020 |
| 2.6 | Remove damaged windows | 2 | 23/4/2020 | 24/4/2020 |
| **3** | **CIVIL WORKS** | **17** | **25/4/2020** | **11/5/2020** |
| 3.1 | Repair of damaged walls and fences | 5 | 25/4/2020 | 29/4/2020 |
| 3.2 | Replace and installation of ceiling | 7 | 30/4/2020 | 6/5/2020 |
| 3.3 | Replacement of tiles | 5 | 7/5/2020 | 11/5/2020 |
| **4** | **PLUMBING AND MECHANICAL WORKS** | **7** | **12/5/2020** | **18/4/2020** |
| 4.1 | Replacement/ upgrading of windows | 2 | 12/5/2020 | 13/5/2020 |
| 4.2 | Replacement/ upgrading of doors | 2 | 14/5/2020 | 15/5/2020 |
| 4.3 | Replacement / upgrading of plumbing materials | 3 | 16/5/2020 | 18/5/2020 |
| **5** | **ELECTRICAL WORKS** | **10** | **19/5/2020** | **28/5/2020** |
| 5.1 | Upgrading of lighting features | 3 | 19/5/2020 | 21/5/2020 |
| 5.2 | Replacement/ repair of damaged A.C. and fans | 5 | 22/5/2020 | 26/5/2020 |
| 5.3 | Replacement of public address system | 2 | 27/5/2020 | 28/5/2020 |
| **6** | **PAINTING** | **5** | **29/5/2020** | **2/6/2020** |
| 6.1 | Internal painting | 3 | 29/5/2020 | 1/6/2020 |
| 6.2 | External painting | 2 | 1/6/2020 | 2/6/2020 |
| **7** | **FURNISHING** | **4** | **3/6/2020** | **7/6/2020** |
| 7.1 | Upgrading of hall chairs | 1 | 3/6/2020 | 3/6/2020 |
| 7.2 | Upgrading of projector and board | 2 | 4/6/2020 | 5/6/2020 |
| 7.3 | Upgrading of podium stand | 1 | 6/6/2020 | 6/6/2020 |
| **8** | **SITE DEMOBILIZATION AND CLEAN UP** | **2** | **7/6/2020** | **8/6/2020** |
| 8.1 | Site Clean up | 1 | 7/6/2020 | 7/6/2020 |
| 8.2 | Site demobilization | 1 | 8/6/2020 | 8/6/2020 |



**ANSWER TO QUESTION 3**

Human resources constituting the project are as follows:

|  |  |  |
| --- | --- | --- |
| S/No | PROFESSION | NUMBERS |
| 1 | Project manager/ architect**- lead consultant** | 1 |
| 2 | Mechanical engineer | 1 |
| 3 | Mechanical technician/ supervisor | 2 |
| 4 | Plumber | 5 |
| 5 | Window installer | 5 |
| 6 | Artisan- Carpenter | 10 |
| 7 | Artisan- Furniture | 5 |
| 8 | Civil/structural engineer | 1 |
| 9 | Civil supervisor | 2 |
| 10 | Mason/Builder | 30 |
| 11 | Electrical engineer | 1 |
| 12 | Electrical technician | 5 |
| 13 | Painter | 10 |

**ANSWER TO QUSTION 4**

Reasons why the site was secured;

1. **For safety**: the site is secured so that people don’t get injured during the rehabilitation process.
2. **For security**: this is another very important reason for the site to be secured. Workers can be tempted to steal materials and equipment out of the site, so this will prevent workers from stealing from site equipment and materials.

1. **For access control**: people who don’t have any business there can randomly walk into the site and that can be bad in any way, so there has to be security around.

**ANSWER TO QUESTION 5**

Bill of Engineering Measurement and Evaluation BEME



**ANSWER TO QUESTION 6**

Payment schedule

|  |  |  |
| --- | --- | --- |
| **PAYMENT SCHEDULE** | | |
| **1st Milestone payment** | 30% Mobilization fee of Contract sum | N25,515,000.00 |
| **2nd Milestone payment** | 30% of 50% of completion | N25,515,000.00 |
| **3rd Milestone payment** | 30% at completion | N 25,515,000.00 |
| **4th Milestone payment** | 10% retain fee for defect liability | N 8,505,000.00 |

**ANSWER TO QUESTION 7**

1. Bill of Engineering Measurement and Evaluation **(BEME)** also referred to as 'Bill'; is a tool used before, during and post-construction to assess and value the cost of construction works. This includes the cost of materials, labor, equipment and all/any other resource(s) required for the success of any construction endeavor based on a pre-determined scope and specification.
2. A defects liability period is a period of time following practical completion during which a contractor remains liable under the building contract for dealing with any defects which become apparent. Depending on the form of contract you are reading, it may also be referred to as a rectification period or defects correction period.
3. The [lead consultant](https://www.designingbuildings.co.uk/wiki/Lead_consultant" \o "Lead consultant) is the prime [consultant](https://www.designingbuildings.co.uk/wiki/Consultants" \o "Consultants) on the project coordinating the [work](https://www.designingbuildings.co.uk/wiki/Works" \o "Works) of the [consultant team](https://www.designingbuildings.co.uk/wiki/Consultant_team" \o "Consultant team) and is the main [point](https://www.designingbuildings.co.uk/wiki/Points" \o "Points) of contact for communication between the [client](https://www.designingbuildings.co.uk/wiki/Clients" \o "Clients) and the [consultant team](https://www.designingbuildings.co.uk/wiki/Consultant_team" \o "Consultant team), except for on significant [design](https://www.designingbuildings.co.uk/wiki/Design" \o "Design) issues where the [lead designer](https://www.designingbuildings.co.uk/wiki/Lead_designer" \o "Lead designer) may become the main [point](https://www.designingbuildings.co.uk/wiki/Points" \o "Points) of contact.
4. A project life cycle is the sequence of phases that a project goes through from its initiation to its closure. The number and sequence of the cycle are determined by the management and various other factors like needs of the organization involved in the project, the nature of the project, and its area of application. The phases have a definite start, end, and control point and are constrained by time.
5. Environmental assessment (EA) is the assessment of the [environmental consequences](https://en.wikipedia.org/wiki/Environmental_impact" \o "Environmental impact) (positive negative) of a plan, policy, program, or actual projects prior to the decision to move forward with the proposed action. In this context, the term "environmental impact assessment" (EIA) is usually used when applied to actual projects by individuals or companies and the term "[strategic environmental assessment](https://en.wikipedia.org/wiki/Strategic_environmental_assessment" \o "Strategic environmental assessment)" (SEA) applies to policies, plans and programmes most often proposed by organs of state.

**REFERENCES**;

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Scribd.com