|  |  |
| --- | --- |
| **Fecha:**  | **Ciudad:**  |

|  |
| --- |
| **1. informaciÓn personal ESTUDIANTE USTA** |
|  | **Programa:**  |
| **Nombre:**   | **Código:**  |
| **Documento de Identificación No:**  | **Apellido:** Maldonado Mendez |
| **Dirección Residencia:**  | **Tipo: T.I. C.C. C.E.** |
| **Teléfono celular 1:**  | **Teléfono:**  |
| **Teléfono celular 2:** | **Correo electrónico:**  |

|  |
| --- |
| **2. información de la empresa** |
| **Nombre:**  | **Representante legal:**  |
| **Dirección:**  | **Municipio:**  |
| **Teléfono:**  | **Fax:**  |
| **Correo electrónico:**  |  |

|  |
| --- |
| **3. información del tutor de la empresa** |
| **Nombre:**  | **Cargo:**  |
| **Teléfono:** | **Celular:**  |
| **Dirección:**  | **Correo electrónico** |
| **Horario disponible para atender visita de la universidad:**  |

|  |
| --- |
| **4. información del director del proyecto** |
| **Nombre:**  | **Celular:**  |
| **Teléfono:**  | **Correo electrónico:**  |

|  |
| --- |
| **5. información deL TRABAJO DE GRADO** |
| **Modalidad de trabajo de grado:** **Creación de empresas \_\_\_\_ Mejoramiento empresarial \_\_\_\_ Investigación \_\_\_** **¿Práctica empresarial \_\_\_\_ Estudio de maestría \_\_\_\_ Otra\_\_\_\_ Cuál? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Nombre del trabajo de grado:**  |
| **Objetivo General:**  |
| **Objetivos específicos:**. |
| **Actividades por desarrollar: (Enumerarlas)**  |
| **Horario de trabajo de las estudiantes en la empresa:** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Cronograma de actividades:**(Diagrama de Gantt con fechas)

|  |
| --- |
| **CRONOGRAMA DE ACTIVIDADES** |
| Objetivo General | Determinar el comportamiento mecánico mediante el ensayo de resistencia a la compresión de concreto adicionado con cementante reutilizado proveniente de escombros de la construcción. |
|   | MESES |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **ETAPA 1** | Revisión Bibliográfica. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **ETAPA 2** | Adquisición de material (Escombro). |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Objetivo Específico** | Establecer el módulo de finura de un cementante obtenido de escombros de construcción que permita ser usado para la fabricación de concreto convencional. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **ETAPA 3** Actividades | Selección del escombro. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Trituración del escombro. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cálculo del módulo de finura del cementante. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Objetivo Específico** | Definir la proporción más adecuada de cemento Portland y cementante procedente de escombros de construcción con base en la resistencia a la compresión del material.  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **ETAPA 4**Actividades | Elaboración del diseño de mezcla y proporciones del cemento portland/material cementante. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fabricación de muestras de concreto.  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **ETAPA 5** | Evaluación de muestras de concreto mediante resistencia a la compresión. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Objetivo Específico ETAPA 6** | Determinar el efecto del uso de un cementante proveniente de escombros de construcción sobre la resistencia a la compresión del concreto convencional mediante análisis estadístico inferencial. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **ETAPA 7** | Escritura del informe final. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

 |