| Discipline:                | Semester:<br>5 <sup>TH</sup> Semester | Name of the Teaching Faculty: Er. Brushabhanu Sahoo                                 |         |  |
|----------------------------|---------------------------------------|---|---------|--|
| Drilling                   | 3 Jennester                           |   |         |  |
| Engineering                | No. of Periods                        | Session: Winter 2023  |         |  |
| Subject(Lab): MUD & CEMENT | / week: <b>04</b>                     | No of weeks:15  |         |  |
| TECHNOLOGY                 | / WEEK. 04                            | Semester from date 01.08.2023 to 30.11.2023   |         |  |
| LAB                        |                                       |   |         |  |
| Subject Code:              |                                       |   |         |  |
| PR3                        |                                       |   | Remarks |  |
| Week                       | Class Day                             | Lab   |         |  |
| 1 <sup>st</sup>            | 1 <sup>st</sup>                       | Study and sketching of simplex reciprocating pump.                                  |         |  |
|                            | 2 <sup>nd</sup>                       | Study and sketching of simplex reciprocating pump.                                  |         |  |
|                            | 3 <sup>rd</sup>                       | Study and sketching of simplex reciprocating pump.                                  |         |  |
|                            | 4 <sup>th</sup>                       | Study and sketching of simplex reciprocating pump.                                  |         |  |
| 2 <sup>nd</sup>            | 1 <sup>st</sup>                       | Study and sketching of duplex reciprocating pump.                                   |         |  |
|                            | 2 <sup>nd</sup>                       | Study and sketching of duplex reciprocating pump.                                   |         |  |
|                            |                                       |   |         |  |
|                            | 3 <sub>rd</sub>                       | Study and sketching of duplex reciprocating pump.                                   |         |  |
|                            | 4 <sup>th</sup>                       | Study and sketching of duplex reciprocating pump.                                   | -       |  |
| 3 <sup>rd</sup>            | 1 <sup>st</sup>                       | Study and sketching of triplex reciprocating pump.                                  | -       |  |
|                            | 2 <sup>nd</sup>                       | Study and sketching of triplex reciprocating pump.                                  | -       |  |
|                            | 3 <sup>rd</sup>                       | Study and sketching of triplex reciprocating pump.                                  |         |  |
|                            | 4 <sup>th</sup>                       | Study and sketching of triplex reciprocating pump.                                  |         |  |
| 4 <sup>th</sup>            | 1 <sup>st</sup>                       | Study and sketching of centrifugal pump.  |         |  |
| -                          | 2 <sup>nd</sup>                       | Study and sketching of centrifugal pump.  |         |  |
|                            | 3 <sup>rd</sup>                       | Study and sketching of centrifugal pump.  |         |  |
|                            | 4 <sup>th</sup>                       | Study and sketching of centrifugal pump.  |         |  |
|                            |                                       | Determination of density of drilling fluid by using Mud balance.                    |         |  |
| 5 <sup>th</sup>            | 1 <sup>st</sup>                       | Determination of density of drilling fluid by using Mud balance.                    |         |  |
|                            | 2 <sup>nd</sup>                       |   |         |  |
|                            | 3 <sup>rd</sup>                       | Determination of density of drilling fluid by using Mud balance.                    |         |  |
|                            | 4 <sup>th</sup>                       | Determination of density of drilling fluid by using Mud balance.                    |         |  |
| 6 <sup>th</sup>            | 1 <sup>st</sup> .                     | Determination of viscosity of drilling fluid by using Marsh funnel.                 |         |  |
|                            | 2 <sup>nd</sup>                       | Determination of viscosity of drilling fluid by using Marsh funnel.                 |         |  |
|                            | 3 <sup>rd</sup>                       | Determination of viscosity of drilling fluid by using Marsh funnel.                 |         |  |
|                            | 4 <sup>th</sup>                       | Determination of viscosity of drilling fluid by using Marsh funnel.                 |         |  |
| 7 <sup>th</sup>            | 1 <sup>st</sup>                       | Determination of gel strength of drilling fluid by using Fann V-G meter.            |         |  |
|                            | 2 <sup>nd</sup>                       | Determination of gel strength of drilling fluid by using Fann V-G meter.            |         |  |
|                            | 3 <sup>rd</sup>                       | Determination of gel strength of drilling fluid by using Fann V-G meter.            |         |  |
|                            | 4 <sup>th</sup>                       | Determination of gel strength of drilling fluid by using Fann V-G meter.            |         |  |
| 8 <sup>th</sup>            | 1st                                   | Determination of filtration loss by using Standard filter press.                    |         |  |
|                            | 2 <sup>nd</sup>                       | Determination of filtration loss by using Standard filter press.                    |         |  |
|                            | 3 <sup>rd</sup>                       | Determination of filtration loss by using Standard filter press.                    |         |  |
|                            | 4 <sup>th</sup>                       | Determination of filtration loss by using Standard filter press.                    | -       |  |
| 9 <sup>th</sup>            | 1 <sup>st</sup>                       | Determination of sand content of drilling fluid by using Sand content               |         |  |
|                            | 1,00                                  | testing kit.  |         |  |
|                            | 2 <sup>nd</sup>                       | Determination of sand content of drilling fluid by using Sand content               |         |  |
|                            | and the recommendation                | testing kit.  Determination of sand content of drilling fluid by using Sand content | -       |  |
|                            | 3 <sup>rd</sup>                       | testing kit.  | 1       |  |
|                            | 4 <sup>th</sup>                       | Determination of sand content of drilling fluid by using Sand content               |         |  |
|                            | 7                                     | testing kit.  |         |  |
| 10 <sup>th</sup>           | 1st                                   | Determination of pH value of drilling fluid by using pH meter.                      |         |  |
|                            | 2nd                                   | Determination of pH value of drilling fluid by using pH meter.                      | -       |  |
|                            | 3rd                                   | Determination of pH value of drilling fluid by using pH meter.                      |         |  |
|                            | 4 <sup>th</sup>                       | Determination of pH value of drilling fluid by using pH meter.                      |         |  |
| 11 <sup>th</sup>           | 1st                                   | Study and sketching of cementing plugs.   | 1       |  |
|                            | 2 <sup>nd</sup>                       | Study and sketching of cementing plugs.  Study and sketching of cementing plugs.    |         |  |

|                  | 3 <sup>rd</sup> | Study and sketching of cementing plugs.                 |  |
|------------------|-----------------|---|--|
|                  | 4 <sup>th</sup> | Study and sketching of cementing plugs.                 |  |
| 12 <sup>th</sup> | 1st             | Study and sketching of wall scratchers.                 |  |
|                  | 2 <sup>nd</sup> | Study and sketching of wall scratchers.                 |  |
|                  | 3rd             | Study and sketching of wall scratchers.                 |  |
|                  | 4 <sup>th</sup> | Study and sketching of wall scratchers.                 |  |
| 13 <sup>th</sup> | 1st             | Study and sketching of casing centralizers.             |  |
|                  | 2 <sup>nd</sup> | Study and sketching of casing centralizers.             |  |
|                  | 3 <sup>rd</sup> | Study and sketching of casing centralizers.             |  |
|                  | 4 <sup>th</sup> | Study and sketching of casing centralizers.             |  |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Study and sketching of guide shoe and float collar.     |  |
|                  | 2 <sup>nd</sup> | Study and sketching of guide shoe and float collar.     |  |
|                  | 3rd             | Study and sketching of guide shoe and float collar.     |  |
|                  | 4 <sup>th</sup> | Study and sketching of guide shoe and float collar.     |  |
| 15 <sup>th</sup> | 1 <sup>st</sup> | Study and sketching of cement mixture from cut section. |  |
|                  | 2 <sup>nd</sup> | Study and sketching of cement mixture from cut section. |  |
|                  | 3 <sup>rd</sup> | Study and sketching of cement mixture from cut section. |  |
|                  | 4 <sup>th</sup> | Study and sketching of cement mixture from cut section. |  |

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