**SOLUSION TD M2THODES ELECTRIQUES**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Exercice 1** | | | | | | |  |  |
| **loi d'archie =** | **IF.w= a.-mS-nw** | |  |  |  |  |  |  |
| **a=** | **1** | **m=** | **1,3** | **porosité=** | **0,26** | **Pw=** | **0,48** | **S=1** |
|  |  |  |  |  |  |  |  |  |
| **Pa=** | **2,8** | **Ωm** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Exercice 2** |  | -6 |  |  |  |  |  |  |
| **Résistévité d'un echontillon cylindrique** | | |  |  |  |  |  |  |
| Loungeur | 0,24 | m | p=U\*S/(I\*L) |  |  |  |  |  |
| Diametre | 0,03 | m | P= | **4270,60** | **Ωm** |  |  |  |
| intenCour | 0,000004 | A |  |  |  |  |  |  |
| la différence de potentielle | 5,8 | v |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Résistévité d'un echontillon prismatique** | | |  |  |  |  |  |  |
| Loungeur | 0,24 | m | p=U\*C\*C/(I\*L) |  |  |  |  |  |
| Diametre | 0,03 | m | P= | 54375 | Ωm |  |  |  |
| intenCour | 0,000004 | A |  |  |  |  |  |  |
| la différence de potentielle | 58 | v |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Exercice 3** |  |  |  |  |  |  |  |  |
| **Résistévité de dispositif de winer** | | |  |  |  |  |  |  |
| DV= | 0,35 |  |  |  |  |  |  |  |
| i= | 0,02 |  |  |  |  |  |  |  |
| a | 2 |  |  |  |  |  |  |  |
| p=(DV/I)\*2\*pi\*a | 219,911486 | Ωm |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **exercice 4** |  |  |  |  |  |  |  |  |
| DV= |  |  |  |  |  |  |  |  |
| I= |  |  |  |  |  |  |  |  |
| L= | 50 | m | K=piL^2/(2l) |  |  |  |  |  |
| l= | 7,5 | m |  |  |  |  |  |  |
| K | 523,598776 | K=piL^2/(2l) |  |  |  |  |  |  |
| K |  | k=(pi/2l)\*(L^2-l^2) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |