# College of Engineering Pune <br> Department: Electrical (Power Electronics and Machines Drives) 

## CO-PO Mapping

| PO | Description | Course Code |
| :---: | :---: | :---: |
| Students Will be able to |  |  |
| PO1 | Independently carry out research / investigation and development work to solve practical problems. | PEMD -16006, PEMD-16002, EE-16002, PEMD-16003, PEMD-16004, ML-15001, ML-15002, PEMD-16007, PEMD(DE)-17002 (c), PEMD(DE)-17003 (a), PEMD(DE)-17003 (b), PEMD-17004, PEMD-19001, PEMD-19002 (EM), PEMD-19002 (ES), PEMD(DE)-19002, PEMD(DE)-19003, ML-19011, ML-19012, PEMD-19004, PEMD-19007 (EM), PEMD-19007 (ES), PEMD(DE)-19005, PEMD(DE)-19009, PEMD-19011, PEMD-19013, PEMD-19014, PEMD-20001, PEMD-20003, PEMD-20004 |
| PO2 | Write and present a substantial technical report /document. | PEMD -16006, PEMD-16002, PEMD-16003, ML-15001, PEMD(DE)-17002 (a), PEMD(DE)-17002 (c), PEMD(DE)-17002 (c), PEMD-17004, PEMD-19002 (ES), ML-19011, ML-19012, PEMD-19007 (EM), PEMD(DE)-19006, PEMD(DE)-19008, PEMD(DE)-19011, PEMD-20003 |
| PO3 | Demonstrate a degree of mastering over the area as per the specialization of the program. | PEMD -16006, EE-16002, PEMD-16007, PEMD-16008, PEMD-16009, PEMD(DE)-17002 (c), PEMD(DE)-17002 (c), PEMD(DE)-17003 (c), PEMD-17003, PEMD-17002, PEMD-17004, PEMD-19001, PEMD-19002 (EM), PEMD-19007 (ES), PEMD-19009, PEMD-19011, PEMD-20003 |
| PO4 | Design and analyze Electrical machine required for various Applications | $\begin{aligned} & \text { PEMD-16001, PEMD-16002, PEMD-16003, PEMD-16005, } \\ & \text { PEMD-17004, PEMD-19001, PEMD-19002 (ES), } \\ & \text { PEMD(DE)- 19003, PEMD-19007 (EM), PEMD-19007 (ES), } \\ & \text { PEMD-19012, PEMD-20003 } \end{aligned}$ |
| PO5 | Design and analyze Electrical Machine drive required to various applications | PEMD-16002, PEMD-16003, PEMD-16007, PEMD-16009, PEMD(DE)-17003 (c), PEMD-17003, PEMD-19001, PEMD-19002 (EM), PEMD-19002 (ES), PEMD-19004, PEMD-19005, PEMD-19007 (EM), PEMD-19007 (ES), PEMD-19011, PEMD-19014, PEMD-20003 |
| PO6 | Select, Configure\& use appropriate modern tool to solve and analyze Electrical Machine drive system | PEMD-16003, PEMD-16005, PEMD-16009, <br> PEMD(DE)-17003 (a), PEMD(DE)-17003 (b), PEMD-17003, <br> PEMD-19001, PEMD(DE)-19002, PEMD(DE)-19003, <br> PEMD-19005, PEMD-19009, PEMD(DE)-19009, <br> PEMD(DE)-19010, PEMD(DE)-19012, PEMD-19012, <br> PEMD-19015, PEMD-20001, PEMD-20003 |

## CO PO mapping of courses of curriculum for 2019-23

Note: "---" indicates Not Applicable

| Sr. No. | Course Code | Course Outcomes | PO1 | PO2 | PO3 | PO4 | PO5 | P06 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | PEMD-19001 | CO1 | $\mathrm{H}^{*}$ | M* | H | H | L* | H |
|  |  | CO2 | M | M | H | H | H | H |
|  |  | CO3 | H | L | H | H | H | M |
|  |  | CO4 | H | M | H | H | H | H |
| 2 | PEMD-19002 (EM) | CO1 | H | --- | H | L | H | H |


|  |  | CO2 | M | M | L | H | --- | --- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CO3 | M | L | M | --- | H | L |
|  |  | CO4 | L | L | M | H | --- | L |
| 3 | PEMD-19002 (ES) | CO1 | --- | M | L | H | H | L |
|  |  | CO2 | M | M | -- | H | L | M |
|  |  | CO3 | H | H | L | M | M | L |
|  |  | CO4 | L | L | M | H | H | L |
| 4 | PEMD(DE)-19001 | CO1 | L | L | L | L | L | L |
|  |  | CO2 | H | H | H | --- | --- | M |
|  |  | CO3 | M | L | M | M | M | M |
|  |  | CO4 | L | H | H | M | M | M |
| 5 | PEMD(DE)-19002 | C01 | L | --- | --- | --- | --- | L |
|  |  | CO2 | M | --- | - | M | L | H |
|  |  | CO3 | H | M | L | --- | H | M |
|  |  | CO4 | L | --- | --- | M | --- | L |
| 6 | PEMD(DE)-19003 | CO1 | H | M | --- | H | L | --- |
|  |  | CO2 | M | --- | L | H | --- | --- |
|  |  | CO3 | M | --- | L | M | --- | H |
|  |  | CO4 | L | --- | --- | M | L | H |
| 7 | PEMD(DE)-19004 | CO1 | H | L | --- | --- | --- | L |
|  |  | CO2 | --- | --- | --- | --- | L | M |
|  |  | CO3 | --- | M | --- | L | - | M |
|  |  | CO4 | --- | H | --- | M | --- | --- |
| 8 | PEMD(DE)-19013 | CO1 | M | --- | -- | --- | --- | M |
|  |  | CO2 | M | --- | --- | --- | --- | --- |
|  |  | CO3 | M | --- | M | --- | --- | --- |
| 9 | ML-19011 | CO1 | H | --- | --- | --- | --- | --- |
|  |  | CO2 | H | H | --- | --- | --- | --- |
|  |  | CO3 | H | H | --- | --- | --- | --- |
|  |  | CO4 | H | H | --- | --- | --- | --- |
| 10 | ML-19012 | CO1 | M | M | L | L | M | L |
|  |  | CO2 | H | H | L | --- | M | M |
|  |  | CO3 | M | H | L | --- | M | --- |
|  |  | CO4 | M | H | --- | --- | L | M |
|  |  | CO5 | H | M | --- | --- | --- | --- |
| 11 | PEMD-19004 | CO1 | H | L | H | --- | --- | L |
|  |  | CO2 | M | L | --- | --- | H | L |
|  |  | CO3 | --- | L | --- | L | H | M |
|  |  | CO4 | --- | H | --- | L | H | L |
|  |  | CO5 | L | L | --- | L | H | L |
| 12 | PEMD-19005 | CO1 | --- | --- | H | L | H | M |
|  |  | CO2 | L | --- | --- | L | H | H |
|  |  | CO3 | M | --- | M | --- | H | M |
|  |  | CO4 | M | --- | M | M | H | M |
| 13 | PEMD-19006 | CO1 | --- | --- | H | L | H | M |
|  |  | CO2 | L | --- | --- | L | H | H |


|  |  | CO3 | M | --- | M | --- | H | M |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CO4 | M | --- | M | M | H | M |
| 14 | PEMD-19007 (EM) | CO1 | --- | L | --- | M | --- | H |
|  |  | CO2 | --- | M | L | H | H | L |
|  |  | CO3 | M | M | --- | H | L | M |
|  |  | CO4 | H | H | L | M | M | L |
|  |  | C05 | L | L | M | H | H | L |
| 15 | PEMD-19007 (ES) | CO1 | H | --- | H | L | H | H |
|  |  | CO2 | M | M | L | H | --- | --- |
|  |  | CO3 | M | L | M | --- | H | L |
|  |  | CO4 | L | L | M | H | --- | L |
|  |  | C05 | M | H | --- | --- | --- | L |
| 16 | PEMD-19009 | CO1 | H | --- | H | --- | --- | H |
|  |  | CO2 | --- | --- | H | --- | --- | H |
|  |  | CO3 | --- | --- | H | --- | --- | H |
|  |  | CO4 | --- | --- | H | --- | --- | H |
| 17 | PEMD(DE)-19005 | C01 | L | L | --- | --- | --- | --- |
|  |  | CO2 | M | --- | M | L | --- | --- |
|  |  | CO3 | H | --- | M | --- | --- | --- |
|  |  | CO4 | L | L | M | --- | --- | --- |
| 18 | PEMD(DE)-19006 | CO1 | --- | M | --- | --- | L | L |
|  |  | CO2 | L | --- | --- | --- | L | --- |
|  |  | CO3 | L | H | --- | --- | --- | L |
|  |  | CO4 | L | L | --- | --- | --- | --- |
|  |  | CO5 | L | H | --- | --- | --- | L |
| 19 | PEMD(DE)-19007 | C01 | M | L | --- | L | L | M |
|  |  | CO2 | L | M | --- | --- | L | --- |
|  |  | CO3 | H | M | L | L | --- | --- |
|  |  | CO4 | --- | H | --- | M | --- | L |
| 20 | PEMD(DE)-19008 | CO1 | M | --- | H | M | M | H |
|  |  | CO2 | --- | --- | M | --- | --- | H |
|  |  | CO3 | M |  | L |  |  |  |
| 21 | PEMD(DE)-19009 | CO1 | H | --- | L | --- | M | H |
|  |  | CO2 | M | L | --- | --- | --- | --- |
|  |  | CO3 | M | L | L | --- | L | M |
|  |  | CO4 | L | H | --- | --- | --- | M |
| 22 | PEMD(DE)-19010 | CO1 | M | --- | --- | --- | --- | M |
|  |  | CO2 | L | --- | M | --- | L | H |
|  |  | CO3 | L | --- | --- | --- | --- | M |
|  |  | CO4 | --- | --- | --- | --- | --- | H |
|  |  | C05 | --- | --- | M | --- | M | M |
| 23 | PEMD(DE)-19011 | C01 | L | M | H | M | H | L |
|  |  | CO2 | L | H | L | L | L | L |
|  |  | CO3 | L | H | L | L | L | L |
|  |  | CO4 | L | H | L | L | L | L |
| 24 | PEMD(DE)-19012 | CO1 | L | --- | M | --- | --- | M |



