



Engineering Materials

Thapar Institute of Engineering & Technology
(Deemed to be University)

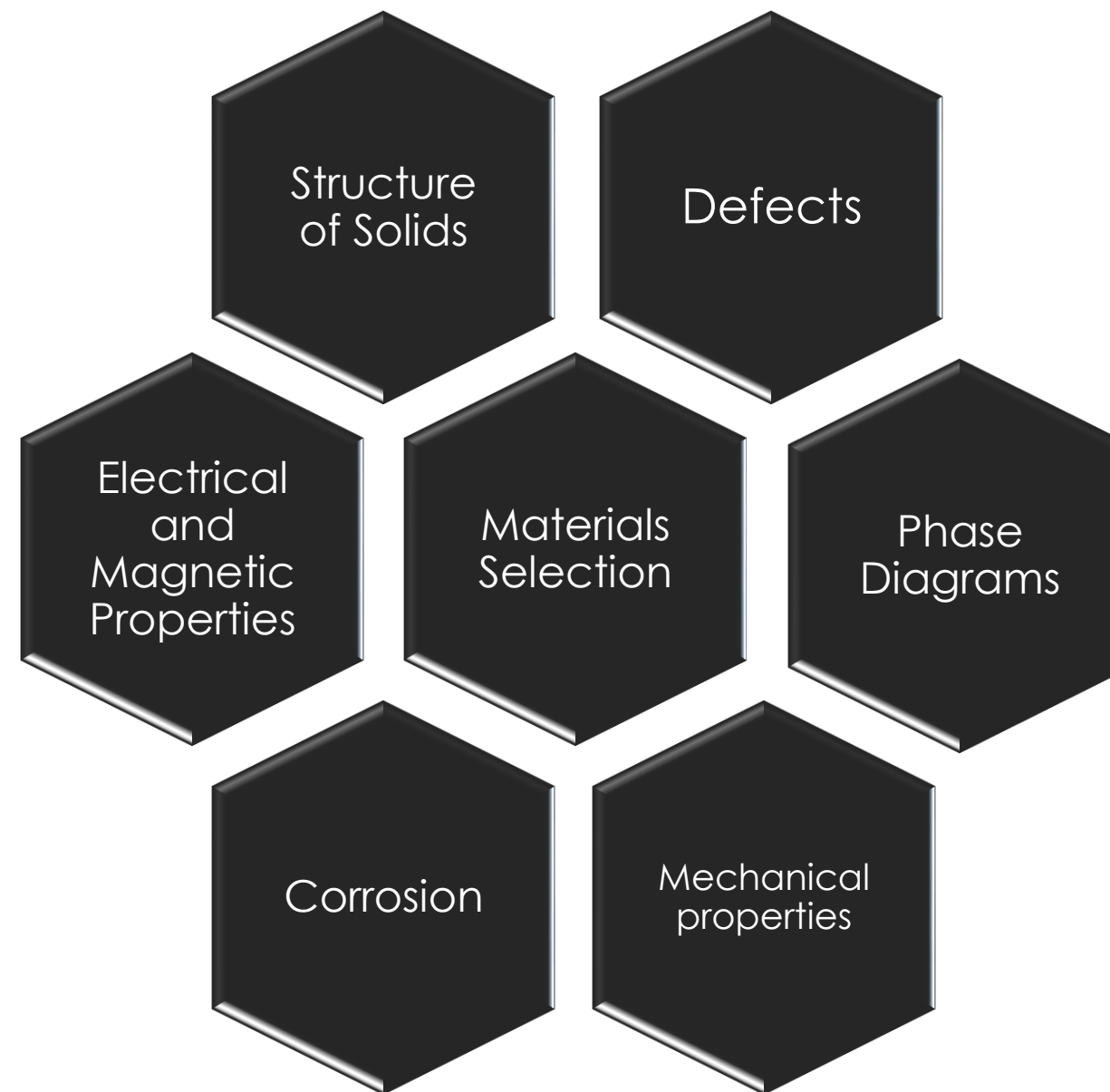
Bhadson Road, Patiala, Punjab, Pin-147004

Contact No. : +91-175-2393201

Email : info@thapar.edu



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L-3, T-1, P-2, CR-4.5

EVENT	MARKS
Mid-Sem Test	25
Tut/Sessional	05
Lab + Project	25
Quiz	10
End-Sem Test	35
Total	100

<https://sites.google.com/thapar.edu/ues012/home>

1. Classify engineering materials based on its structure.
2. Draw crystallographic planes and directions.
3. Distinguish between elastic and plastic behavior of materials.
4. Distinguish between isomorphous and eutectic phase diagram.
5. Classify materials based on their electrical and magnetic properties.
6. Propose a solution to prevent corrosion.

Text Books:

1. V. Raghavan, *Introduction to Materials Science and Engineering*; Prentice Hall India, 2005.
2. W.D. Callister , *Materials Science and Engineering*; John Wiley & Sons, Singapore, 2002.
3. W.F. Smith, *Principles of Materials Science and Engineering: An Introduction*; Tata Mc-Graw Hill, 2008.

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1. S. O. Kasap, *Principles of Electronic Engineering Materials*; Tata Mc-Graw Hill, 2007.
2. L. H. Van Vlack, *Elements of Material Science and Engineering*; Thomas Press, India, 1998.
3. K. G. Budinski, *Engineering Materials – Properties and selection*, Prentice Hall India, 1996.

- ❑ Prof. O. P. Pandey
- ❑ Prof. Kulvir Singh
- ❑ Dr. Jayant Kolte
- ❑ Dr. Sanjay Kashyap

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- <https://sites.google.com/site/polymorphismmyhomepage/investigating-material-failures>
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- <https://www.okchem.com/showroom/alumina-catalyst-pellet.html>
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- [_for Thermal Management Under Extreme Conditions/figures?lo=1](#)
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- <http://nautil.us/issue/35/boundaries/why-nature-prefers-hexagons>
- <https://opentextbc.ca/chemistryatomfirst2eopenstax/chapter/lattice-structures-in-crystalline-solids/>
- https://saylordotorg.github.io/text_general-chemistry-principles-patterns-and-applications-v1.0/s16-02-the-arrangement-of-atoms-in-cr.html
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- <https://www.tec-science.com/material-science/ductility-of-metals/fundamentals-of-deformation/>

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