

LIST OF RECOMMENDED BOOKS FOR AMIIM EXAMINATIONS**PART- I****ENGLISH FOR TECHNICAL COMMUNICATION****Text Books**

1. Communication in English for Technical Students by Curriculum Development Centre, National Institute of Technical Teachers' Training (Eastern Region), Kolkata and published by Orient Longman Ltd

REFERENCE BOOKS

1. Basic Communication Skills for Technology, by Andrea J Rutherford (Pearson Education Asia)
2. The Oxford Guide to Writing and Speaking by John Seely (Oxford University Press)

MATHEMATICS**Text Books**

1. Higher Engineering Mathematics by B S Grewal
2. Numerical Methods by S S Sastry, F Scheid, Schaum's Outline Series

Reference Books

1. Higher Algebra by Ghosh & Chakraborty, (U N Dhur & Sons Publications)
2. Advanced Engineering Mathematics by Kreyszig
3. Differential Equations by Frank Ayres Jr., Schaum's Outline Series

CHEMISTRY**Text Books**

1. Essentials of Physical Chemistry by B S Bahl & G D Tuli
2. Inorganic Chemistry by P K Dutta

Reference Books

1. Text Book of Physical Chemistry by S Glasstone
2. Physical Chemistry for Metallurgists by J Mackowiak
3. Theoretical Principles of Inorganic Chemistry by G S Manku

PHYSICS**Text Books**

1. Modern Physics for degree students by J B Rajam
2. Modern Physics by B L Thareja

Reference Books

1. Properties of Matter by D S Mathur
2. Optics by C J Smith
3. Electricity and Magnetism by D N Vasudev

BASIC METALLURGY**Text Books**

1. Principles of Extractive Metallurgy by A Ghosh and H S Ray
2. Materials Science and Engineering by V Raghavan

Reference Books

1. Extraction of Non-Ferrous Metals by H S Ray, R Sridhar and K P Abraham
2. Manufacturing Technology: Foundry, Forming & Welding by P N Rao
3. Introduction to Physical Metallurgy by S H Avner

ENGINEERING DRAWING AND GRAPHICS

Text Books

1. Elements of Engineering Drawing by T D Ahuja
2. Elements of Engineering Drawing by N D Bhatt

Reference Books

1. Practical Solid Geometry by Deshpande & Rajaram
2. Engineering Drawing by D N Ghose
3. Engineering Drawing and Graphics by K Venugopal

MECHANICS OF SOLIDS AND FLUIDS (107)

Text Books

1. Elements of Strength of Materials by Timoshenko and Young
2. Strength of Materials by Sadhu Singh

Reference Books

1. Strength of Materials by Ryder
2. Fluid Mechanics by Kumar

ELECTRICAL TECHNOLOGY AND BASIC ELECTRONICS

Text Books

1. Electrical and Electronics Technology by Hughes
2. Electrical Technology by B L Thareja

Reference Books

1. Applied Electricity by H Cotton
2. Advanced Electrical Technology by H Cotton

METALLURGICAL THERMODYNAMICS & KINETICS

Text Books

1. Principles of Metallurgical Thermodynamics by S K Bose & S K Roy, Publisher: Universities Press
2. Chemical Thermodynamics for Metals and Materials, Hae-Geon Lee, Publisher: Imperial College Press

Reference Books

1. Chemical Thermodynamics of Materials, SveinStølen, Tor Grande, Neil L. Allan; Publisher: John Wiley and Sons Ltd.
2. Kinetics of Metallurgical Reactions by H S Ray

PART II

IRON MAKING

Text Books

1. Introduction to Modern Iron making by R H Tupkary :Pub.Khanna Pub. New Delhi
2. Principles of Blast Furnace Iron making by A K Biswas; Pub. SBA Pub. Calcuta
3. Ironmaking and Steel making by A.Ghosh and A. Chatterjee: Pub.PHI Learning

Reference Books

1. Physical Chemistry of Iron & Steel Manufacture by C Bodsworth. CBS Pub.
2. Principles of Extractive Metallurgy by A Ghosh and H S Ray: Pub. New Age

STEEL MAKING

Text Books

1. Introduction to Modern Steel Making by R H Tupkary :Pub. : Khanna Pub.
2. Steel making by A.K. Chakrabarti :Pub. PHI Learning
3. Ironmaking and Steelmaking by A.Ghosh and A. Chatterjee: Pub.PHI Learning

Reference Books:

1. Principles of Secondary Processing and Casting of Liquids Steel by Ahindra Ghosh.; Pub: South Asia books
2. First Course in Iron and Steel Making by Dipak Majumdar : Pub. University Press; IIM
3. Secondary Steel making by A. Ghosh : Pub.; CRC Press

EXTRACTIVE METALLURGY OF NONFERROUS METALS

Text Books

1. Extraction of Non-Ferrous Metals by H S Ray, R Sridhar and K P Abraham: *Pub. Affiliated East West Press*
2. Modern Technology of Non-ferrous Metals and Metal Extraction by Engineers India research Board

Reference Books

Extraction of Nuclear and Non-ferrous Metals (Topics in Mining, Metallurgy and Materials Engineering) Hardcover by Sujay Kumar Dutta , D. R. Lodhari; Pub. Springer

PHASE EQUILIBRIUM & PHASE TRANSFORMATION

Text Books

1. Physical Metallurgy by R E Reed-Hill.
2. Phase transformations in metals and alloys by David A. Porter and K. E. Easterling, Third Edition, CRC Press.

Reference Books

1. Physical Metallurgy - Principles & Practice by V Raghavan.
2. Alan Cottrell, An introduction to metallurgy.
3. Modern Physical Metallurgy by R E Smallman

HEAT TREATMENT TECHNOLOGY

Text Books

1. Heat Treatment – Principles and Techniques by T V Rajan & Sharma
2. Heat Treatment of Metals – Special Report 1995, Iron & Steel Institute UK

Reference Books

1. Steel and its Heat Treatment – Vol II & III by D K Bullen
2. Metals Handbook – Vol IV, 10th Edition, ASM International Publication (1991). Metallurgy & Heat Treatment of Tool Steels by Robert Wilson

DEFORMATION AND FRACTURE BEHAVIOUR OF METALS AND ALLOYS

Text Books

1. Mechanical Metallurgy by G E Dieter
2. Deformation and Fracture Mechanics of Engineering Materials by Richard W Hertzberg
1. Mechanical Metallurgy by G E Dieter

Reference Books

1. Mechanical Behaviour of Materials by M. A. Meyers and K. K. Chawla
2. David Broek , Elementary engineering fracture mechanics.
3. D. Hull and D.J. Bacon, *Introduction to Dislocations*

MECHANICAL WORKING AND TESTING OF METALS AND ALLOYS (207)

Text Books

1. Mechanical Metallurgy by G E Dieter.
2. Mechanical Working of Metals: Theory and Practice, John Noel Harris

Reference Books

1. Mechanical Behaviour of Materials by M. A. Meyers and K. K. Chawla
2. David Broek , Elementary engineering fracture mechanics.
3. D. Hull and D.J. Bacon, *Introduction to Dislocations*

MATERIALS PROCESSING (208)

Text Books

1. Principles of Metal Casting, 2nd Edition, by R W Heine, C R Loper and P C Rosenthal Tata-Mc-Graw Hill
2. Powder Metallurgy – Science, Technology and Materials by A Upadhay, G S Upadhaya
3. A textbook of Welding Technology by O P Khanna, Dhanpat Rai Publications

Reference Book

1. Welding and Welding Technology by R L Little, Tata-Mc-Graw Hill
2. Powder Metallurgy Science by R M German 2nd Edition, MPIF

ELECTIVE PAPERS

GROUP - A

CORROSION AND CORROSION PREVENTION

Text Books

1. Principles and Prevention of Corrosion by D A Jones
2. Corrosion Engineering by M G Fontana

Reference Books

1. Corrosion and Corrosion Control by H Uhlig and R W Revie
2. An Introduction to Metallic Corrosion and its Prevention by Raj Narayan
3. Environmental Degradation of Metals by U K Chatterjee, S K Bose and S K Roy

INDUSTRIAL MANAGEMENT

Text Books

1. Essentials of Modern Management by Mrintyunjoy Banerjee
2. Principles and Practice of Management by Shyamal Banerjee

Reference Books

1. Management – Theory and Practice by Ernest Dale
2. Management for Business and Industry by Claude S George

INDUSTRIAL POLLUTION AND POLLUTION CONTROL

Text Books

1. Environmental Pollution Control Engineering by C S Rao, Willey Eastern Ltd
2. Environmental Engineering by Pandey and Carney

Reference Books

1. Air Pollution by Rao and Rao
2. Pollution Control in Process Industries by Mahajan1. Air Pollution by Rao and Rao

MINERAL BENEFICIATION AND AGGLOMERATION

Text Books

1. Mineral Processing by S. K. Jain: *Pub. CBS publishers*
2. Wills Mineral Processing Technology by Barry A. Wills (, James Finch .*Pub. Butterworth-Heinemann*

SELECTION AND APPLICATION OF MATERIALS

Text Books

1. Engineering Materials, Properties and Selection by K G Budinski
2. Materials Science and Engineering – An Introduction by W D Callister

Reference Books

1. Introduction to Engineering Materials – Behaviour Properties and Selection by G T Murray
2. Engineering Materials Vol I & II by M F Ashby and D R H Jones

NDT OF METALS AND ALLOYS

Text Books

1. Non-destructive Testing by R Haimshaw & Edward Arnold
2. Practical Non-destructive Testing by Baldev Raj, T Jaykumar, and M Thavasimuthur

Reference Books

1. Treatise on Non-destructive Testing and Evaluation by J Prasad and H S Ganeshha
2. Non-destructive Evaluation- A Tool for Design, Manufacturing and Services, 2nd Edition, by Don E Bray, (1996)

SECONDARY STEEL MAKING AND CASTING PROCESSES

Books for reference:

- 1 Secondary Steelmaking-Principles and Applications by A. Ghosh, CRC press, USA (2001)
- 2 A first course in Iron and Steelmaking by D. Mazumdar, Universities press, India Pvt. Ltd, Hyderabad (2015)
- 3 Principles of Secondary Processing and Casting of Liquid Steel, by Ahindra Ghosh, Oxford and IBH publishing company, New Delhi (1990)
- 4 NPTEL course on Steelmaking by Prof. S.C. Koria and Dipak Mazumdar

GROUP - B

COMPOSITE MATERIALS

Text Books

1. Composite materials – Science and Engineering by K K Chawla
2. Metal Matrix Composites by M Taya & R J Arsenault

ENERGY MANAGEMENT IN METALLURGICAL INDUSTRIES

Text Books

1. Energy and Mineral and Metallurgical Industries by H S Ray, B P Singh and S Bhattacharya, Allied Publishers Ltd
2. Energy Conversion and Utilization by J H Krenz, Allyn and Bacon Inc, New York

Reference Books

1. Global Energy Perspective by N Nakiceenovic, A Grubles and A McDonalds, Cambridge University Press
2. Principles of Extractive Metallurgy by A Ghosh and H S Ray, Willey Eastern Ltd

Materials Characterization

Text Books

1. Modern Metallography by R E Smallman and K H B Ashbee, Pergamon Press
2. Characterization of Materials by P K Mitra, PHI Learning

Reference Book

1. Elements of X-ray Diffraction, 2nd Edition by B D Cullity, Addison –Wesley
2. An Introduction to Materials Characterization by P R Khangaonkar, Penram International Publishing, India
3. Materials Characterization by P C Angels, Elsevir
4. Materials Characterization Techniques, Edited by G Sridhar et al , NMI, Jamshedpur

POLYMERIC, CERAMIC AND ELECTRONIC MATERIALS

Text Books

1. Elements of Materials Science and Engineering by L H Van Vlack
2. Introduction to Ceramics by W D Kingery

Reference Books

1. Engineering Application of Ceramic Materials – Source Book: ASM 1985
2. Electronic Properties of Materials by R E Hummel

FUELS, FURNACES AND REFRACTORIES

Text Books

1. Elements of Fuel Technology by G W Himus
2. Fuels-solid, liquid and gaseous by J S S Brame & J C King Edward

Reference Books

1. Fuels, Furnaces and Refractories by J D Gilchirst
2. Elements of Fuels, Furnaces and Refractories by O P Gupta

COMPUTER APPLICATIONS IN METALLURGY

Text books

1. Programming for Basics by N Subramanian
2. Computer Oriented Numerical Methods by V Rajaraman

Reference Books

1. Computer Methods for Engineers by Chapra and Canale
2. Rate Processes in Metallurgy by A K Mohanty