Tikrit University
College of Engineering
Department of
Electrical Engineering

جامعة تكريت
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الدراسات العليا

Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Basic of Electrical Engineering :	
Refrences: 1) Robert L. Boylestad, "Introductory circuit analysis", 10th edition, Prentice Hall, March 4, 2002.	
	Subject
1	**Analysis of D.C circuits**
2	**Analysis of single phase A.C. circuits**
3	**Resonance**
4	**Power factor correction**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Mathimatics :	
Refrences: 1) George B. Thomas, Jr., "Thomas' calculus : early transcendentals", Twelfth Edition, Addison Wesley, 2010. 2) C. Ray, " Advanced Engineering Analysis" , Wylie.	
	Subject
1	**Transcendental Functions**
2	**Methods of Integration**
3	**Partial Differentiation**
4	**Ordinary Differential Equations**
5	**Multiple Integral**
6	**Matrices**
7	**Fourier series**
8	**Fourier transform**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Electrical Networks :	
Refrences: 1) James W. Nilsson , Susan A. Riedel , "Electrical Circuits", 8 Edition, Pearson Prentice Hall, 2008.	
	Subject
1	**Transient Analysis of RLC Circuits**
2	**S-Plane Circuits Analysis**
3	**Two Port Networks**
4	**Filters**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Electical Machines :	
Refrences: 1) Stephen J Chapmans, “Electrical Machinery Fundamentals” , 4th edition, MicGraw Hill, 2005. 2) D. P. Kothari and I. J. Nagrath, “Electrical Machines”, 4th edition, MicGraw Hill, 2010 3) Fitzgerald, Arthur Eugene, et al. “Electric machinery”. Vol. 5. New York: McGRAW-hill, 2003. 4) Mehta, V. K., and Rohit Mehta. “Principles of electrical machines”. S. Chand Publishing, 2008	
	Subject
1	**D.C. Machines**
2	**Transformers**
3	**Single & Three Phase Induction Motors**
4	**Synchronous Machines**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Electrical Power Systems:	
Refrences: 1)Gobta , "A course in electrical power" 2) John .J.Grainer wiliam D.stevenson "power system analysis" McGraw-Hill 1994 3) Hadi Saadat "power system analysis" McGraw-Hill 1999 4) Paul M. Anderson,Charles and etal :Power System Protection: Willy 2021 5) V. Jagannathan, "Power Electronics Devices and Circuits", 2011	
	Subject
1	**Transmission line parameters**
2	**Underground cables**
3	**Distribution**
4	**Load Flow Study**
5	**Faults Analysis**
6	**Stability**
7	**Protection**
8	**Types and Characteristics of Switching Devices**
9	**AC to AC, AC to DC, DC to DC and DC to AC Converters**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Electronics :	
Refrences: 1) Robert L. Boylestad and Louis Nashelsky, "Electronic Devices and Circuit Theory" ,11th ed. Taylor & Francis, 2013. 2) Jacob Millman ,Christos Halkias , Chetan Parikh, "Integrated Electronics" , 2nd ed, 2017 3) Thomas l. Floyd,, "Digital Fundamental", Pearson Prentice Hall 4) Charles H. Roth, Jr. and Larry L. Kinney , "Fundamentals of Logic Design" , Cengage Learning, 6th ed., 2010	
	Subject
1	**Frequency Response**
2	**Operational Amplifiers**
3	**Analysis & design of synchronous systems**
4	**Digital to analogue & analogue to digital converters**
5	**digital devices**

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Competetive Exam – Post Gradute (MSc-Program) 2025-2026	
Communications:	
Refrences: 1)Ferrell G. Stremler, "Introduction to Communication Systems", Eddition Wesly publishing company, 1990. 2) B. P. Lathi, "Modern Digital and Analog Communication System", Rinehert and Winston, Inc 1989. 3) R. E. Ziemer and W.H. Tranter, "Principles of Communications", John Wiley and Sons, Inc., 1995. 4) Symon Haykin, "Communication Systems", John Wiley and Sons, Inc.2001. 5)Digital Signal Processing by Li Tan	
	Subject
1	**Signals and Systems**
2	**Linear CW modulation** :Amplitude modulation and angle modulation
3	**Digital modulation: ASK, FSK, PSK, PAM, PCM and QAM**
4	**Multiplexing : Frequency division and time division**
5	**Convolution: continous and discrete**
6	**Discrete Fourier transform and fast Fourier transform**
7	**Digital filters: FIR and IIR**
8	**Information Theory.**

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Control System Engineering:	
Refrences: 1) Smarajit Ghosh. Control Systems Theory and Applications PEARSON.2007 2) Ogata. Modern Control Engineering.3rd ED, Prentice Hall,1997 3) Ogata. Modern Control Engineering.5th ED, Prentice Hall,2010 4) Norman Nise.Control System Engineering.6th Ed ,John wiley &Sons,2011 5) Richard C. Dorf &Robert H Bishop. Modern Control Systems.12th Ed, Prentice Hall,2011	
	Subject
1	**State Space**
2	**.Stability of Linear Control System**
3	**PID Controller Design**
4	**Frequency Response Analysis**
5	**Compensation Methods**