Code : 13PS1208

M.TECH. DEGREE EXAMINATION, OCTOBER 2015
M.Tech. II Semester

VOLTAGE STABILITY
(Power Systems)

Time : 3 hours

Max. Marks: 60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1   What are the causes of voltage instability? Explain the various system design and operating measures to prevent voltage collapse

2   Define and differentiate between rotor angle stability and voltage stability of power system.

SECTION – II

3   What are capability curves of an alternator? Discuss their role in voltage stability of the power system.

4   Explain how "Network Voltage Control" is carried out and how it helps in voltage stability of the system.

SECTION – III

5   Explain generator modeling under the field current limit.

6   Derive an expression for determinant of Jacobian as proximity indicator in voltage stability indices

SECTION - IV

7   Explain the characteristics of following loads: i) lightning load. ii) heating load

8   What is an LTC transformer ? Derive and draw the equivalent circuit of this transformer.

SECTION - V

9   Explain the steady state static real power stability in a power system.

10   Explain the voltage and reactive power at a node in a power system.

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

ADAPTIVE SIGNAL PROCESSING
(Digital Electronics & Communication Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1 (a)   List various characteristics of Adaptive systems? Explain
   (b)   How weight vectors are used in Adaptive linear combiner? Explain

2 (a)   Describe the desired response performance function of Adaptive linear combiner?
   (b)   Define mean square error? Explain about gradient operation

SECTION - II

3 (a)   Explain about a simple gradient search algorithm? How to obtain its solution
   (b)   Analyze the concept of Linear Optimum Filtering? Explain

4 (a)   What is the concept of smoothing and prediction? Explain
   (b)   Examine the Stability and Rate of convergence of adaptive filter?

SECTION - III

5 (a)   What is the geometrical significance of Eigen vectors and Eigen values
   (b)   Derive the discrete form of Newton's algorithm and compute the algorithm with difference instead of derivatives.

6 (a)   Compare the learning curve of Newton's method and steepest descent methods
   (b)   Discuss the concept of Eigen Filtering?

SECTION - IV

7 (a)   Analyze the learning curves for LMS using the necessary theory?
   (b)   How to cancel Echoes in long distance telephone circuits? Explain

8 (a)   Discuss the concept of convergence of LMS algorithm in detail.
   (b)   Explain how LMS algorithm takes advantage when the performance surface is quadratic?

SECTION - V

9 (a)   Discuss about estimation of the state using the innovation process?
   (b)   What is Kalman Gain? Explain the computation of Kalman Gain?

10 (a)   What is filtered estimation error and conversion factor? Explain
   (b)   Discuss about filter state –error correlation matrix?

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

CUTTING TOOL TECHNOLOGY& TOOL DESIGN
(Advanced Manufacturing Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. (a) Explain the process and application of
   (i) Tempering   (ii) Annealing

   (b) Explain the desired qualities of cutting tool material.

2. (a) What are the properties, advantages and limitations of the following tool materials?

   (i) High speed steel   (ii) Carbide tipped tools   (iii) Ceramic tools

   (b) What is Hardening and Normalizing?

SECTION - II

3. (a) Discuss the design of various elements of a milling cutter.

   (b) What is the influence of various angles in a single point cutting tool?

4. (a) Sketch and explain various elements of twist drill.

   (b) How twist drills are made?

SECTION - III

5. (a) With a neat sketch explain any two types of jigs used in drilling.

   (b) What are the difference between jig and fixtures?

6. (a) Describe the principles of pin location with neat sketch.

   (b) Write short notes on
        (i)   Grinding fixtures   (ii) Milling fixtures

SECTION - IV

7. (a) Explain the advantages and disadvantages of compound dies over progressive dies.

   (b) In a particular piercing operation, 20mm holes are to be punched in a brass sheet of 3mm thick. The max. shear strength of the sheet may be taken as 185 MPa. Design the punch and the die sizes as well as the required punch force.

8. (a) Discuss the effect of clearances in blanking and punching operations.

   (b) What are different types of dies used in sheet-metal operations?

SECTION - V

9.   Write short notes on
        (a) Bend allowance
        (b) Drawing operation
        (c) Single and double action dies

10. (a) Explain about the methods of bending sheet metal.

    (b) What are the various variables that affect metal flow during drawing?

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

DATA MINING & DATA WAREHOUSING
(Computer Science & Engineering)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. (a)   Explain about Classification of Data Mining Systems.

    (b)   Write about Data Warehouse Implementation.

2   (a)   Explain the Data Mining Functionalities.

    (b)   Explain the steps in Knowledge Discovery Database.

SECTION – II

3.   Explain about Data Mining Primitives.

4.   Describe why it is important to have a data mining language.

SECTION – III

5.   Write about Data Generalization and Summarization.

6. (a)   Discuss about Discretization and concept hierarchy generation.

    (b)   Explain Data Transformation.

SECTION – IV

7.   Explain about Classification by Decision Tree Induction.

8.   Summarize the role of back propagation in the classification networks.

SECTION – V

9.   Write about Mining Spatial Databases and Mining Multimedia Databases.

10. (a)   Explain the steps involved in the text mining

     (b)   Discuss the role of data mining in web.

Code :13PS1207

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

AI TECHNIQUES IN POWER SYSTEMS
(Power Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION-I

1. a) Write differences between ANN and Biological Neural Network

   b) Explain how McCulloch Pitts Neuron Model can be used for implementation of AND and OR logic gates?

2. a) What is mean by learning? Explain Reinforced learning strategy.

   b) Draw and Explain Multi-layer feed forward network.

SECTION – II

3. a) Define Discrete and Continuous perceptron?Write learning algorithms for Discrete and Continuous perceptron?

   b) State and Prove perceptron convergence theorem.

4. a) Explain back propagation learning algorithm

   b) How Hop-field network can be used as an auto-Associative memory? Explain with an example.

SECTION – III

5. Explain in detail, the following terms of GA.
   - (a) Encoding
   - (b)Fitness function.
   - (c)Reproduction
6. Explain the process of cross over and mutation is done in genetic algorithm.

SECTION-IV

7. a) Explain How classical set is different from fuzzy sets?

   b) Write properties of fuzzy sets

8. a) What is mean by membership function and how a membership function is created for any problem?

   b) For the following fuzzy sets A and B, find disjunction and conjunction where
   A= {(4, 0.1) (6, 0.3) (8, 0.6) (10, 1)},
   B= {(0, 0.3) (2, 0.6) (4.1) (6, 1) (8, 0.6) (10, 0.3)}

SECTION-V

9. What are the basic components of fuzzy logic system and explain each component clearly.

10. Explain, how neural network can be used to control speed of Induction motor.

M.TECH. DEGREE EXAMINATION, OCTOBER 2015
M.Tech. II Semester

MODERN RADAR SYSTEMS
(Digital Electronics & Communication Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION I

1. (a) Draw the block diagram of a typical modern radar system with array antenna as feeder and explain about each block in detail.
   (b) Derive the receiver noise and Signal to Noise ratio for the Modern radar System?
2. (a) Define Jamming. Derive an expression for Radar range with active jamming?
   (b) Discuss in detail about Radar Cross Section of Simple and Complex targets?

SECTION II

3. (a) Write a short notes on (i) False alarm (ii) Cell Averaging (iii) Matched Filters
   (b) Explain in detail about different types of integration of radar pulses.
4. (a) Explain in detail about detection of fluctuating targets.
   (b) Explain about coherent detection and give its merits and demerits comparing with other detection methods?

SECTION III

5. (a) write a short notes on (i) Sector scan (ii) Measurement sensitivity?
   (b) Explain in detail about Mono Pulse Radar-Range Tracking?
6. (a) Explain in detail about Error Analysis of Radar?
   (b) Explain in detail about Doppler Measurement?

SECTION IV

7. (a) Explain about synthetic aperture radar?
   (b) Write short notes on Bi-Static Radar?
8. (a) Explain in detail about Height Finder & 3D radar?
   (b) Write a short notes on (i) HF over the Horizon Radar (ii) Air Surveillance radar?

SECTION V

9. (a) Write short notes on noise jamming of surveillance radar.
   (b) Explain about ECM and ECCM
10. (a) Explain about Objective of ECM and Tracking Radar?
    (b) Write short notes on ECCM Provisions for Surveillance Radar?

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

PRODUCTION & OPERATIONS MANAGEMENT
(Advanced Manufacturing Systems)

Time : 3 hours

Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1 Discuss the recent trends in production and operations management with suitable example.

OR

2 Discuss the role of operations in strategic management with suitable example.

SECTION - II

3 (a) Enumerate and explain the major factors governing in selection of plant location.
(b) What is 'Line of balance'? Explain the LOB technique.

OR

4 Compare the various facility layouts with their advantages and disadvantages.

SECTION - III

5 Write a detailed note on production planning and control in mass production.

OR

6 Explain the steps involved in capacity planning and also discuss the advantages and disadvantages of various aggregate planning methods.

SECTION - IV

7 We have 4 jobs each of which has to go through the machines M_j, J = 1, 2......6 in the order $M_1, M_2,.... M_6$, processing time in hours is given in Table-I. Determine a sequence of these four jobs that minimizes the total elapsed time T.

Table-I

	M_1	M_2	M_3	M_4	M_5	M_6
Job A	18	8	7	2	10	25
Job B	17	6	9	6	8	19
Job C	11	5	8	5	7	15
Job D	20	4	3	4	8	12

OR

8 (a) Explain single machine scheduling.
(b) State the differences between flow shop scheduling and job shop scheduling.

SECTION - V

9 (a) Explain the steps involved in critical path method.

(b) The following table represents a set of activity times for a PERT network:

Activity	A	B	C	D	E	F	G	H	I	J	K
t_o	6	1	1	1	1	1	2	4	4	2	2
t_m	7	2	4	2	2	5	2	4	4	5	2
t_p	8	9	7	3	9	9	8	4	10	14	8
Predecessors	-	-	-	A	A, B	C	C	E, F	E, F	D, H	I, G

Draw the network and determine the critical path, expected time of completing the project. Determine the probability that the project will be completed within 25 weeks.

OR

10 The following table gives the activities in a construction project and the time duration of each activity:

Activity	Preceding activity	Normal Time (Days)
A	-	16
B	-	20
C	A	8
D	A	10
E	B, C	6
F	D, E	12

Required:

(i) Draw the activity network of the project.

(ii) Find critical path.

(iii) Find the total float and free-float for each activity.

(iv) Determine earliest starting time, latest starting time, earliest finish time and latest finish time.

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2015
M.Tech. II Semester
SOFTWARE ARCHITECTURE
(Computer Science & Engineering)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1   What is software architecture? Discuss various computer hardware design levels.

2   Explain how the architecture business cycle works, with a neat diagram.

SECTION - II

3   Explain about the following architectural styles
i) Pipes and Filters ii)   Layered Systems iii)   Interpreters

4   Discuss about the role of integration in software development environments with suitable example.

SECTION - III

5   Explain various design rules for user-interface architecture.

6   Write short notes on the following:
i) Pattern types architectural patterns ii) WWW case study

SECTION - IV

7   Explain about the following:
i) Architectural Style   ii) Architectural design space

8   Explain about ADL with suitable example.

SECTION - V

9   Briefly explain the different steps involved for creating a products and evaluating a product line.

10   Write short notes on the following
i) Component based systems   ii) Legacy systems

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2014

M.Tech. II Semester

ADVANCED POWER SYSTEM PROTECTION
(Power Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. (a) Write the differences between static relays and electromagnetic relays.

   (b) Derive the general equation of amplitude comparator.

2. Explain the duality between amplitude comparator and phase comparator.

SECTION – II

3. Discuss the circuit details of a static 2-input asymmetric phase comparator. What is the nature of complex plane characteristic of such comparators?

4. Draw and explain the block diagram and wave shapes of input and output signals for a block and spike phase comparator.

SECTION - III

5. Explain a static IDMT over current relay by a neat block diagram.

6. Explain the working of Instantaneous Over current relay.

SECTION – IV

7. Explain the realization of MHO relay with sampling comparator.

8. Explain about Harmonic Restraint Relay.

SECTION - V

9. Explain the microprocessor implementation of digital distance relaying algorithm and draw its schematic diagram.

10. Draw the basic schematic diagram of interface for directional relay and also draw the flow chart for the microprocessor based directional relay.

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2014

M.Tech. II Semester

ADVANCED POWER SYSTEM PROTECTION
(Power Systems)

Time : 3 hours   Max. Marks :60

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M.TECH. DEGREE EXAMINATION, OCTOBER 2015
M.Tech. II Semester

WIRELESS COMMUNICATIONS
(Digital Electronics & Communication Systems)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. (a) Write clearly about the Evolution of Wireless Communication Systems.

    (b) Explain about the Basic Cellular System.

2   Discuss in detail about the Personal Area Network and Bluetooth Technology.

SECTION – II

3.   Explain in detail about Large scale path loss and Impulse Response Model of a Multipath Channel in detail.

4. (a) Explain about the Rayleigh and Rican Distributions.

    (b) Derive and explain the Statistical Models for Multipath Fading Channels.

SECTION – III

5.   Explain the concept of diversity branches and signal paths.

6. (a) Discuss about Switched combining technique.

    (b) Explain the performance analysis for Rayleigh Fading channels.

SECTION – IV

7.   Write about interference analysis for Broadcast and Multiple Access channels.

8.   Explain the code division multiple access and Reverse Link power control.

SECTION – V

9.   Discuss about capacity of flat and frequency selective fading channels.

10.   Explain in detail about CDMA 2000 standards and specifications.

M.TECH. DEGREE EXAMINATION, OCTOBER 2015
M.Tech. II Semester

WIRELESS COMMUNICATIONS
(Digital Electronics & Communication Systems)

Time : 3 hours   Max. Marks :60

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M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

QUALITY ENGINEERING IN MANUFACTURING
(Advanced Manufacturing Systems)

Time : 3 hours

Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks

SECTION - I

1 (a) What is quality in manufacturing and explain about an overall quality system?
 (b) Differentiate between system design and parameter design which affect the quality.

2(a) Explain the importance of quality engineering in design production process.
 (b) How the tolerances and economics of production are inter-related?

SECTION - II

3 What are the various factors selected for optimization of design using signal-to-noise ratio? Resolve with an example.

4 (a) Write about Quality Evaluations and type of Tolerances.
 (b) What is quadratile loss function and explain its effect on quality?

SECTION - III

5 Describe four level and multiple level experiments are used in the Analysis and Interpretation by ANOVA technique. Discuss with an example.

6 Explain about the importance of Analysis of Variance (ANOVA) and mention about No –way ANOVA.

SECTION - IV

7 (a) How number of experiments to be carried out will be eliminated by orthogonal arrays?
 (b) What is the need and application of ISO-9000?

8 (a) Give the procedure adopted in conducting and analyzing the experiments orthogonal arrays.
 (b) What are the test strategies used in orthogonal arrays?

SECTION - V

9 (a) How the Six Sigma system improves the Quality of production?
(b)Explain the tools for process improvement

10 Write Short Notes on (a)Steps in designing (b) Six- Sigma in Services and Small organizations

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

QUALITY ENGINEERING IN MANUFACTURING
(Advanced Manufacturing Systems)

Time : 3 hours   Max. Marks :60

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M.TECH. DEGREE EXAMINATION,   SEPTEMBER 2014

M.Tech. II Semester

ADVANCED COMPUTER NETWORKING
(Computer Science & Engineering)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. List out the differences between connection oriented and connection less services. Give examples for both services.

2. Explain about LAN topologies.

SECTION - II

3. How deterministic and probabilistic protocols work in MAC?

4. Explain different techniques of error correction codes.

SECTION - III

5. Define Adaptive & Non Adaptive routing algorithms with examples and Explain about distance vector routing algorithm.

6. Describe about various IP address formats and ICMP internet protocol.

SECTION - IV

7. Explain different types of distributed systems.

8. Describe the steps in RPC

SECTION - V

9. How to implement message passing in distributed system.

10 How the security provided in distributed system through Kerberos.

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2014

M.Tech. II Semester

ADVANCED COMPUTER NETWORKING
(Computer Science & Engineering)

Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
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M.TECH. DEGREE EXAMINATION, SEPTEMBER 2015

M.Tech. II Semester

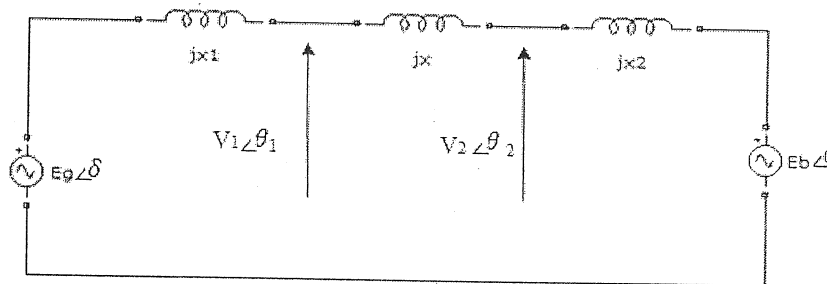## POWER SYSTEM DYNAMICS & STABILITY
(Power Systems)

Time : 3 hours

Max. Marks :60

*Answer **FIVE** Questions, Choosing **ONE** Question from each section*
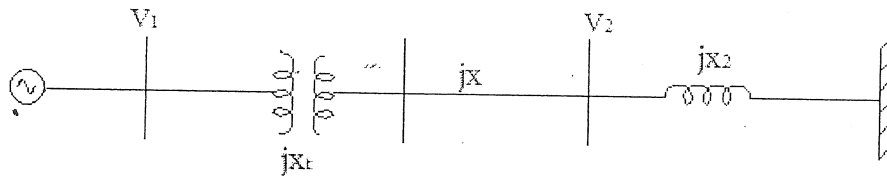*All Questions carry equal marks*

* * *

SECTION - I

1 a. Derive the Eigen values of the swing equation for the linearized system.

   b. A generator is supplying power to a load centre through a transmission line as shown in fig. The power output of the generator is increased slowly while maintaining the magnitudes of the voltages V_1 and V_2 constants at 1.0P.U by manual control. Find the steady state stability limit of power that can be transmitted. Assume X_t= 0.1P.U, X_L = 0.4P.U, Z_T = j0.1P.U, X_g= 0.3P.U.

2 a. Explain the analysis of transient stability using point-by-point method.

   b. Find the critical clearing angle and time for a three-phase fault at the generator terminals as shown in fig. the generator is initially supplying power of 1.0P.U assume that the post fault system is identical to the pre-fault system. Assume H=4, F_b=50 Hz, X_g=0.3P.U, X_t=0.1P.U, X=0.4P.U, X_2=0.1P.U, $|V_1|$=$|V_2|$=1.0P.U.

SECTION - II

3   a. Derive the transformed flux linkage equation using park's transformation.
    b. Derive the equations, which represent a transformation of 'p' pole machine to a two pole machine.

4   a. What are the advantages of park's transformation and analyze the steady state performance of a loaded generator.

    b. What are the advantages of per unit quantities and explain how stator base quantities are chosen in a synchronous machine.

SECTION - III

5   a. Explain the block diagram representation of IEEE type /excitation system.
    b. Discuss about the ESS, TGR and PSS.

6   a. Explain the block diagram of type DC1-DC commutator exciter.
    b. Explain the block diagram of type AC_1-Alternator-Rectifier Excitation system.

SECTION – IV

7   a. Discuss the application of model 1.1 to stator equations.

    b. With the help of phasor diagram, explain the procedure for the calculation of initial conditions of the synchronous machine equations.

8   Explain the modeling of synchronous machine, using park's reference frame.

SECTION - V

9   a.   Explain small signal analysis with block diagram representation.
     b.   Derive the stability criterion for the synchronous machine from the characteristic equation.

10   Analyse different applications of synchronizing and damping torques of synchronous machine system.

M.TECH. DEGREE EXAMINATION,   SEPTEMBER 2015

M.Tech. II Semester

POWER SYSTEM DYNAMICS & STABILITY
(Power Systems)

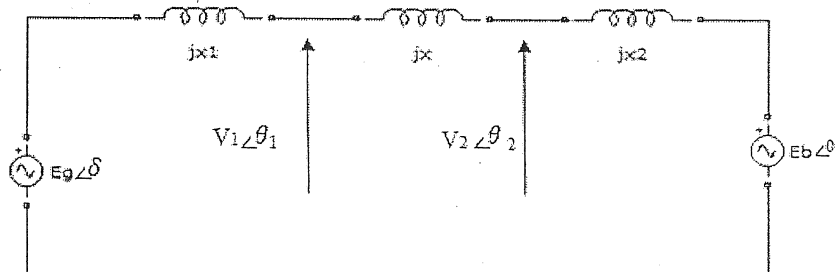Time : 3 hours   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
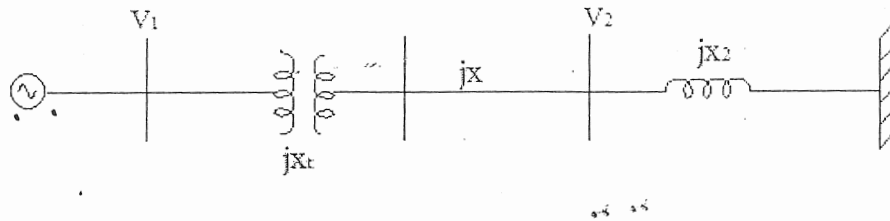*All Questions carry equal marks*
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3 a. Derive the transformed flux linkage equation using park's transformation.
   b. Derive the equations, which represent a transformation of 'p' pole machine to a two pole machine.

4 a. What are the advantages of park's transformation and analyze the steady state performance of a loaded generator.

   b. What are the advantages of per unit quantities and explain how stator base quantities are chosen in a synchronous machine.

SECTION - III

5 a. Explain the block diagram representation of IEEE type /excitation system.
   b. Discuss about the ESS, TGR and PSS.

6 a. Explain the block diagram of type DC1-DC commutator exciter.
   b. Explain the block diagram of type AC_1-Alternator-Rectifier Excitation system.

SECTION – IV

7 a. Discuss the application of model 1.1 to stator equations.

   b. With the help of phasor diagram, explain the procedure for the calculation of initial conditions of the synchronous machine equations.

8   Explain the modeling of synchronous machine, using park's reference frame.

SECTION - V

9   a.   Explain small signal analysis with block diagram representation.

    b.   Derive the stability criterion for the synchronous machine from the characteristic equation.

10   Analyse different applications of synchronizing and damping torques of synchronous machine system.

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2014
M. Tech. II Semester

DIGITAL COMMUNICATION TECHNIQUES
(Digital Electronics & Communication Systems)

Time: 3 hours   Max. Marks: 60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
* * *

SECTION - I

1. (a) How do represent bandpass signals? Describe in detail.

   (b) Determine the autocorrelation function of the stochastic process $x(t) = A\sin(2\pi f_c t + \theta)$

   where f_c is a constant and θ is uniformly distributed phase, i.e., $p(\theta) = \dfrac{1}{2\pi}; 0 \le \theta \le 2\pi$

2. (a) What is the difference between linear and non linear modulations? Describe linear modulation with memory.

   (b) What is MSK? Represent an MSK signal as a form of two staggered binary PSK signals.

SECTION – II

3. (a) Differentiate among optimum detector and maximum likelihood sequence detector.

   (b) Give optimum receiver structure for binary signals

4. (a) Describe karhunen loeve expansion approach and whitening.

   (b) Derive the equation for probability of error for envelope detection of correlated binary signals.

SECTION – III

5. (a) What are the characteristics of fading multipath channels? Describe in detail.

   (b) How do you simulate fading channels?

6. (a) What are the channel correlation functions? Describe in detail with its power spectra.

   (b) What is multipath? Mention its key parameters.

SECTION – IV

7. (a) What is nyquist criterion for zero – ISI? Describe in detail.

(b) What are the types of equalization techniques used in communication systems?

8. (a) What is decision feedback equalization? Describe in detail.

(b) What is equalization? Why it is required?

SECTION – V

9. (a) Compare the performance of BPSK and QPSK with necessary equations.

(b) What is the difference between carrier synchronization and timing synchronization?

10. (a) What is a multicarrier system? Describe in detail about multichannel and multi carrier systems.

(b) What is OFDM? What are its carrier synchronization methods?

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M.TECH. DEGREE EXAMINATION,   SEPTEMBER 2014

M.Tech. II Semester

RAPID PROTOTYPING
(Advanced Manufacturing Systems)

Time: 3 hours   Max. Marks: 60

*Answer **FIVE** Questions, Choosing **ONE** Question from each section*
All Questions carry equal marks
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SECTION - I

1 (a)   Discuss the various stages in the development of RP systems highlighting the merits and limitations.

(b)   Explain the need of rapid prototyping and tooling in product development in detail

2 (a)   Explain the principle and process details in stereolithography systems with neat sketch.

(b)   Briefly explain the data preparation for stereolithography system.

SECTION - II

3.   Describe LOM process and discuss the effects of process parameterson the quality of the final product.

4.   Explain the working principle and details of process parameters of fusion deposition modeling.

SECTION - III

5.   Explain the principle and process details in Laser sintering and its applications with a neat sketch.

6.   Describe the principle and operation of 3D printer with a neat sketch.

SECTION – IV

7.   Explain the working principle of LENS process with a neat sketch. What are the tooling involved in this process? List out the applications.

8.   What is Spray metal tooling? Give its classification. Explain about each of the spray metal tooling processes in brief.

SECTION - V

9(a)   Explain the vacuum casting process with soft silicone rubber moulding.

(b)   List out the applications of vacuum casting process.

10.   Discuss about Surface modification. How data transfer to solid modelsis carried out?

M.TECH. DEGREE EXAMINATION, SEPTEMBER 2014

M.Tech. II Semester

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Code : 13CS1202

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

SERVICE ORIENTED ARCHITECTURE
(Computer Science & Engineering)

Time : 3 hours,   Max. Marks :60

Answer FIVE Questions, Choosing ONE Question from each section
All Questions carry equal marks
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1.   What is software Architecture ? Explain the different types of IT Architectures with the help of a neat diagram.

(OR)

2. a.   Explain the different software platforms for enterprise Applications.

   b.   Explain the programming models of SOA.

SECTION - II

3   a.   Explain the various Enterprise Applications in SOA.

   b.   Explain about client and business process services.

(OR)

4   a.   Explain briefly about the Design Activities of SOA.

   b.   What is Business Case? Explain the business case of SOA.

SECTION - III

5   Explain briefly about SOA implementation and Governance.

(OR)

6   a.   Explain about Event-Driven Architecture with a neat diagram.

   b.   Explain about SOA Best Practices.

SECTION - IV

7   a.   Explain about Advanced Messaging in SOA.

   b.   Explain about XML Signature.

(OR)

8   Briefly explain about Meta data management in SOA.

SECTION - V

9   a.   What is a Transaction Processing ? Explain.

      b.   Explain about SOA in mobile.

<div align="center">(OR)</div>

10   Explain in detail about protocols and coordination.

Code : 13CS1202

M.TECH. DEGREE EXAMINATION, OCTOBER 2015

M.Tech. II Semester

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