Hall Ticket Number :										

Code : 1GA51

R-11/R-13

III B.Tech. I Semester Supplementary Examinations May/June 2016

Managerial Economics and Financial Analysis

(Common to CE, ME and ECE)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. What is managerial economics? Explain the relationship of Managerial Economics with other disciplines. 14M
2. What do you understand by 'Elasticity of Demand'? write about Demand Forecasting methods 14M
3. What is BEP? Draw break even chart and explain its objectives, importance and its assumptions. 14M
4. What is market? Explain its importance when competition is perfect 14M
5. a) What are the different forms of business organizations? 6M
   b) Explain the present role and importance of private sector organization to develop India 8M
6. Explain different DCF methods in capital budgeting? Step by step of evaluation of NPV method with an example 6M 8M
7. From the following data of San Pre Ltd. Co. as on 31-03-2014 you are required to prepare final accounts.

Particulars	Debit (in ₹)	Credit (in ₹)
Stock (01-04-2014)	25000	
Purchases	200000	
Carriage inward	5000	
Carriage outward	10000	
Discount	8000	
Wages	10000	
Salaries	17000	
Rent	15000	
Sales		335000
Rates and Taxes	10000	
Sundry Debtors and Creditors	50000	20000
Term loan		55000
Bills Receivables and Payables	35000	15000
Investment	20000	
Cash at Bank	20000	
Furniture	30000	
Land and buildings	50000	
Vehicles	20000	
Capital		100000
	525000	**525000**

Closing Stock (31-03-2013) ₹ 65000/- 14M

8. What is meant by ratio analysis? Discuss its objectives and limitations 14M

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Hall Ticket Number :										

Code : 1G351

R-11/R-13

III B.Tech. I Semester Supplementary Examinations May/June 2016

Analog Communications

(Electronics & Communication Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Explain the square law modulator of generating AM wave with a neat circuit diagram. 7M
   b) Explain the concept of single tone modulation in AM waves and show that the efficiency is 0.33. 7M

2. a) Explain the generation of the DSBSC wave using balanced modulator. 8M
   b) A modulating signal m(t) is applied to a DSBSC system modulator operating at frequency (f_c) of 50 KHz. Sketch the spectrum of the modulated signal if m(t)=2cos(4000 t)+5cos(6000 t). 6M

3. a) Explain the coherent detection of SSBSC signals. 7M
   b) Explain the frequency discrimination method of SSB wave. 7M

4. a) Write short notes on PLL and Zero crossing detector. 7M
   b) Compare the Narrow band FM with Wide band FM. Also draw the phasor diagram of NBFM. 7M

5. a) Explain the noise performance of SSBSC and prove that the signal to noise ratio is unity. 8M
   b) Draw the pre-emphasis circuit and explain the operation. 6M

6. a) Explain how the frequency stability is obtained using AFC. 7M
   b) A certain transmitter radiates 9 KW with carrier un modulated and 10.125 KW when the carrier is sinusoidally modulated. Calculate the modulation index. If another sine wave is simultaneously transmitted with modulation index of 0.4, determine the total radiated power. 7M

7. a) Explain the terms fidelity, double spotting associated with radio receivers. 8M
   b) Compare the AM receivers with FM receivers. 6M

8. a) Explain the merits and demerits of PAM. 7M
   b) Write short note on PWM generation techniques. 7M

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Hall Ticket Number :										

R-11 / R-13

Code : 1G352

III B.Tech. I Semester Supplementary Examinations May/June 2016

Linear IC Applications

(Electronics & Communication Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. Discuss the DC & AC analysis of a Single input balanced output configuration of a differential amplifier. 14M

2. a) List out the features of 741-Op-Amp in detail. 6M
   b) Discuss the AC characteristics of an Op-Amp in detail. 8M

3. a) Draw and explain an Instrumentation amplifier with Op-Amp. 7M
   b) Draw and explain the Op-Amp ideal differentiator. Mention its drawbacks. How these are overcome with practical differentiator? 7M

4. a) Draw and explain an Op-Amp Saw tooth wave generator. 7M
   b) Design an Op-Amp Astable multi for an output frequency of 1KHz. 7M

5. a) How can you differentiate wide band pass filters and narrow band pass filters? Discuss the design of any one of the above filters. 7M
   b) Design a second order low pass filter at a high cutoff frequency of 1KHz. 7M

6. a) Draw and explain the Astable operation of 555 timer. 7M
   b) Discuss any two applications of 565 PLL. 7M

7. a) Explain the working principle of Inverted R-2R DAC with a neat diagram. 7M
   b) Explain the working principle of parallel comparator type ADC with a neat diagram. 7M

8. a) Classify different types of multipliers and mention their applications. 7M
   b) Draw and explain the IC 1496 balanced modulator. 7M

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Hall Ticket Number :										

R-11/R-13

Code : 1G353

III B.Tech. I Semester Supplementary Examinations May/June 2016

Digital IC Applications

(Electronics & Communication Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Design a CMOS transistor circuit for a Three input OR gate and explain the operation with the help of function table? 8M
   b) Explain about propagation delay and noise margins in CMOS logic circuits. 6M

2. a) With the help of diagram explain the working of three input ECL-OR gate. 8M
   b) Distinguish CMOS logic and TTL logic circuits. 6M

3. a) Describe the design flow of HDL with an example. 8M
   b) Describe the program structure in VHDL. 6M

4. a) Distinguish signal and variable assignment statements with an example. 7M
   b) Describe conditional and switch statements used in VHDL with an example. 7M

5. a) Write a VHDL program for 4-bit binary to grey code. 7M
   b) Write a VHDL program for 4-input priority encoder in behavioral model. 7M

6. a) Design 4-bit comparator and write a VHDL program for it. 8M
   b) What is the purpose of Wait-statement in VHDL? 6M

7. a) Design universal shift register using VHDL. 8M
   b) Describe the importance of sensitivity list in a process statement. 6M

8. a) Distinguish Static and Dynamic RAM 6M
   b) Describe the READ and WRITE operations of Dynamic RAM cell. 8M

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Hall Ticket Number :										

R-11/R-13

Code : 1G354

III B.Tech. I Semester Supplementary Examinations May/June 2016

Antennas and Wave Propagation

(Electronics & Communication Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Define the terms : Beam Width, Polarisation, Directivity and Effective height of an antenna 8M
   b) Calculate the electric field due to an isotropic radiator radiating 3KW power at a distance of 2 Km from it. 6M

2. a) Derive an expression for radiance resistance of current element starting from the expression for radiation fields. 8M
   b) What is Folded Dipole? 6M

3. a) What is optimum spacing used in parasitic array? Why. 6M
   b) Explain binomial arrays with suitable figures. 8M

4. a) Derive an expression for radiated electric field strength of a traveling wave radiation of length 'l'. 7M
   b) Write short notes on "Helical Antenna". 7M

5. a) What is a parabolic cylinder antenna? Derive an expression for field distributions on the surface of reflector. 8M
   b) A Paraboloid reflector of 1.8m diameter is used at 6GHz. Calculate the beam width between the nulls and gains in dBs'. 6M

6. a) Describe the Ground wave propagation. 6M
   b) Write short notes on Reduction factor and numerical distance 8M

7. a) Explain tropospheric propagation in detail 7M
   b) Explain scattering phenomena. 7M

8. a) Write a short notes on MUF and Critical frequency 8M
   b) Write a notes on skip distance 6M

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Hall Ticket Number :										

R-11/R-13

Code : 1G457

III B.Tech. I Semester Supplementary Examinations May/June 2016

Computer System Architecture

(Electronics & Communication Engineering)

Max. Marks: 70 **Time: 03 Hours**

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Define Computer. Classify different application Computer based on size, Cost and Computational power. 8M
   b) Describe Five Functional units of Computer 6M
2. a) Draw a 4-bit Binary Adder. 4M
   b) Design a 4-bit Combinational Circuit decrementer using four full-adder adder Circuits 10M
3. a) List and Explain most common fields found in Instruction format. 4M
   b) Explain three types of CPU Organization with an Example 10M
4. a) With a neat diagram explain general configuration of Microprogrammed Control Unit. 8M
   b) List and Explain the Characteristics of RISC. 6M
5. a) Explain Booth algorithm for Multiplication of signed -2's complement number. 10M
   b) Note on Array Multiplier 4M
6. a) The application program in a computer system with cache uses 1400 instruction acquisition bus cycle from cache memory and 100 from main memory. What is the Hit rate? IF the cache memory operates with zero wait state and the main memory bus cycles use three wait states, What is the average number of wait states experienced during program execution? 6M
   b) Explain with a diagram How virtual to physical Address Translation can Implemented. 8M
7. a) Write a Note on Direct Memory Access(DMA) 6M
   b) Explain possible modes of data transfer to and from peripherals. 8M
8. a) What is Pipelining? Explain steps in Clock cycle for RISC architecture. 8M
   b) Note on Cache Coherence. 6M

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