

CBCS SCHEME

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15EE51

Fifth Semester B.E. Degree Examination, June/July 2019 Management and Entrepreneurship

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Management. Explain the roles of Manager. (08 Marks)
b. Whether Management is a Science, Arts or Profession? Justify your answer. (08 Marks)

OR

- 2 a. What are the various steps involved in planning? (08 Marks)
b. What is Decision making? Explain different types of decisions. (08 Marks)

Module-2

- 3 a. Briefly explain the principles of Organization. (08 Marks)
b. Explain briefly various steps involved in selection process. (08 Marks)

OR

- 4 a. Explain importance of co-ordination and its techniques. (08 Marks)
b. Define Controlling and explain the steps in a control process. (08 Marks)

Module-3

- 5 a. Explain Business Ethics and Corporate Governance. (08 Marks)
b. Explain the characteristics of Entrepreneur. (08 Marks)

OR

- 6 a. Explain the stages in entrepreneurial process. (08 Marks)
b. Explain the barriers involved in entrepreneurship. (08 Marks)

Module-4

- 7 a. Explain the objective of Small Scale Industry. (08 Marks)
b. Explain the impact of Globalization on Small Scale Industry. (08 Marks)

OR

- 8 a. Briefly explain the steps involved in starting Small Scale Industry. (08 Marks)
b. Describe the objective and function of TECSOK and KSSIDC. (08 Marks)

Module-5

- 9 a. Define Project and explain Project Identification. (08 Marks)
b. Explain the contents of Project Report. (08 Marks)

OR

- 10 a. Write a note on Project Appraisal. (08 Marks)
b. Define and differentiate CPM and PERT. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8=50, will be treated as malpractice.

OR

- 8 a. Explain the different interrupts of 8051 indicating their vector addresses. (06 marks)
b. Write a C program that continuously gets a single bit of data from P1.7 and sends it to P1.0, while simultaneously creating a square wave of 200 μ s period on pin P2.5. Use timer 0 to create the square wave. Assume that XTAL = 11.0592MHz. (10 Marks)

Module-5

- 9 a. Write an ALP to rotate the stepper motor 5 steps in clockwise direction and 10 steps in anticlockwise direction with a delay between each step. (10 Marks)
b. Explain with a diagram, the interfacing of DAC 0808 to 8051 chip. (06 Marks)

OR

- 10 a. Interface an LCD display to 8051 and write an 8051 C program to send letters 'M', 'D', and 'L' to the LCD using delays. (10 Marks)
b. With a block schematic explain the features of 8255 PI chip. (06 Marks)

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15EE553

Fifth Semester B.E. Degree Examination, June/July 2019 Electrical Estimation and Costing

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- a. Define Estimating and State its purpose. State the important facts, which an estimator should know for preparing an Internal wiring estimate. (08 Marks)
b. Write note on the Comparative Statement. (08 Marks)

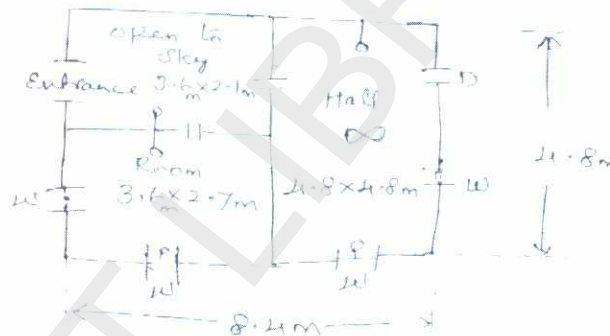
OR

- a. Explain IE77 and IE76. (08 Marks)
b. State the rules to be observed while Inviting tenders. (08 Marks)

Module-2

- a. What is the function of a fuse? Why it is connected in the phase wire? (04 Marks)
b. Draw the electrical circuit and estimate the quantity of materials and their cost required for PVC casing – capping used in a house, the plan of which is shown in fig.Q3(b). Assume the height of ceiling as 3.6 metres and one plug point is to be provided in each room. (12 Marks)

Fig.Q3(b)



OR

- a. Write the general rules to be consider for wiring system. (04 Marks)
b. Draw the electric circuit and estimate the Quantity of material and total cost for PVC wiring system used in a hall of 15m x 6m x 4.5m height, the hall is to be fitted with fan points and light points make your own assumptions for the number of fan and light points and other missing data. (12 Marks)

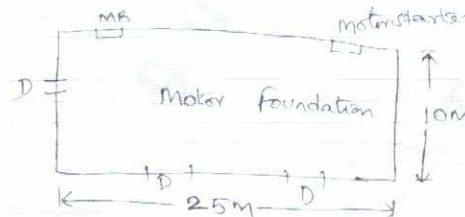
Module-3

- a. What are the important considerations regarding motor installation wiring? (06 Marks)
b. Prepare a list of material and estimate the cost for providing service connection to a single storey building at 240V, 1 ϕ , 50Hz having a light and fan load of 5kW. The supply is to be given from an overhead line 20m away from the building. (10 Marks)

OR

- 6 a. What do you understand by service line? Write down the various methods of Installing service lines. (06 Marks)
- b. A 10Hp , 415V, 3 ϕ , 50Hz Induction motor is to be installed in a workshop, the plan of which is shown below in fig. Q6(b). Show the layout of the wiring and estimate the quantity of material required and give in approximate cost the wiring is to be surface conduct. (10 Marks)

Fig.Q6(b)

**Module-4**

- 7 a. Give the points to be considered at the time of erection of overhead lines. (06 Marks)
- b. An overhead 11KV, 50Hz line has to be erected using 27kg, 10 meter long steel poles and copper wire of size no. 3/2.642mm, with average span of 150 meters. Make a list of material required and estimate the cost per kilometer. (10 Marks)

OR

- 8 a. Explain the procedure of earthing of Transmission lines. (08 Marks)
- b. Estimate the Quantity of material required and cost of 1km of overhead 11KV, 50Hz line using steel poles of 11 meter height and ACSR conductor of $\frac{6}{1} \times 2.59$ mm with an average span of 120m. (08 Marks)

Module-5

- 9 a. Describe briefly the equipment that must be available in a substation. (08 Marks)
- b. Prepare a list of material required and work out the cost of installation of a 400 KVA indoor type 11/0.433 KV X^r (transformer). (08 Marks)

OR

- 10 A 37. KW connection is to be given to an agriculture field at 415V, 3 ϕ , 50Hz, the connection is to be given from a 3 ϕ , 11KV, overhead distribution line which is available at a distance of 40m. The motor has a full load efficiency of 85% and power factor 0.8. Make a neat sketch showing how will you arrange the supply and estimate quantity of material required with cost. (16 Marks)

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15EE54

Fifth Semester B.E. Degree Examination, June/July 2019 Signals and Systems

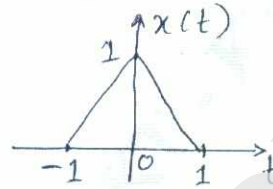
Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the classification of signals. (05 Marks)
 b. For the continuous-time signal $x(t)$ shown in Fig.Q1(a) obtain $y(t) = x(3t) + x(3t+2)$. (05 Marks)



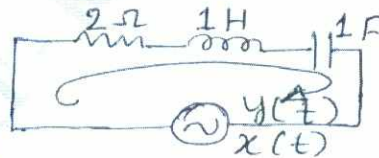
- c. Find odd and even components for the signals given :
 i) $x(t) = (1+t^3)\cos^{10}(t)$ ii) $x(t) = 1+t+3t^2+5t^3+9t^4$. (06 Marks)

OR

- 2 a. Explain the properties of systems. (05 Marks)
 b. Determine whether the continuous-time signal, $y(t) = y_1(t) + y_2(t) + y_3(t)$ is periodic ; where $y_1(t)$, $y_2(t)$ and $y_3(t)$ have periods of 1.08, 3.6 and 2.025 seconds respectively. (05 Marks)
 c. For the following continuous-time systems, determine whether the system is i) linear ii) time invariant iii) memoryless.
 1) $y(t) = x(\sin t)$ 2) $y(t) = (t + 10) x(t)$. (06 Marks)

Module-2

- 3 a. Derive the equation for convolution sum. (06 Marks)
 b. The impulse response of an LTI system is given by
 $h(n) = 1; n = \pm 1$
 $= 2; n = 0$
 $= 0; \text{otherwise}$
 Determine the output for an input sequence $x(n) = [2, 3, -2]$. (05 Marks)
 c. Find the forced response for the system given in Fig.Q3(c). With input $x(t) = 2e^{-t} u(t)$. (05 Marks)



OR

- 4 a. Prove the commutative property for convolution sum. (06 Marks)
 b. Find the response of the system described by the difference equation
 $y(n) - \frac{1}{9}y(n-2) = x(n-1)$ with $y(-1) = 1, y(-2) = 0$, and $x(n) = u(n)$. (05 Marks)
 c. Draw the block diagram corresponding to the LTI system described by the difference equation given by $y[n] + \frac{1}{2}y[n-1] - \frac{1}{3}y[n-3] = x[n] + 2x[n-2]$. (05 Marks)

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Module-3

- 5 a. State any six properties of the continuous time Fourier transform. (06 Marks)
 b. Find the frequency response of a continuous time LTI system represented by the impulse response $h(t) = e^{-|t|}$. (05 Marks)
 c. Find the frequency response and the impulse response of the system described the differential equation $\frac{dy(t)}{dt} + 8y(t) = x(t)$. (05 Marks)

OR

- 6 a. If $x(t) \xrightarrow{\text{FT}} X(j\omega)$ then prove that $y(t) = e^{j\beta t} x(t) \xrightarrow{\text{FT}} Y(j\omega) = X(j\omega - \beta)$. (06 Marks)
 b. Evaluate the Fourier transform for the signal, $x(t) = e^{-3t} u(t-1)$. Find the expression for magnitude and phase spectra. (05 Marks)
 c. Find the frequency response and the impulse response of the system described by the differential equation: $\frac{d^2 y(t)}{dt^2} + 5 \frac{dy(t)}{dt} + 6y(t) = \frac{-dx(t)}{dt}$. (05 Marks)

Module-4

- 7 a. State and prove time-shift property for the discrete-time Fourier transform (DTFT). (06 Marks)
 b. Find the DTFT of the signal $x(n) = \alpha^n u(n)$; $|\alpha| < 1$. Draw the magnitude spectrum. (05 Marks)
 c. Obtain the frequency response and the impulse response of the system described by the difference equation given by $y(n) + \frac{1}{2} y(n-1) = x(n) - 2x(n-1)$. (05 Marks)

OR

- 8 a. State and prove Parseval's theorem. (06 Marks)
 b. Find the DTFT of $\delta(n)$ and draw the spectrum. (05 Marks)
 c. Obtain the difference equation for the system having impulse response.

$$h(n) = \delta(n) + 2\left(\frac{1}{2}\right)^n u(n) + \left(-\frac{1}{2}\right)^n u(n).$$
 (05 Marks)

Module-5

- 9 a. Define RoC and explain its properties. (06 Marks)
 b. Find the z-transform of $x(n) = \alpha^n u(n)$ and draw its RoC. (05 Marks)
 c. Find the discrete-time sequence $x(n)$ which has z-transform, $x(z) = \frac{-1 + 5z^{-1}}{\left(1 - \frac{3}{2}z^{-1} + \frac{1}{2}z^{-2}\right)}$ with RoC; $|z| > 1$. (05 Marks)

OR

- 10 a. State and explain final value theorem. (06 Marks)
 b. Find $x(z)$ if $x(n) = -\alpha^n u(-n-1)$ and find the RoC. (05 Marks)
 c. Obtain the time domain single corresponding to the z-transform given below:

$$x(z) = \frac{\frac{1}{4}z^{-1}}{\left(1 - \frac{3}{4}z^{-1} + \frac{1}{8}z^{-2}\right)}; |z| > \frac{1}{2}.$$
 (05 Marks)