

A.Y. 2019-20

LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

B.Tech. (VIII Semester) (R14) Regular and Supplementary Examinations, October - 2020

Regulations

R14

(for Second Phase Examinations)

TIME TABLE

Time: 10.00 AM - 01.00 PM

DATE	ASE	CE	CSE	ECE	EEE	EIE	IT	ME
12-10-2020 (Monday)	S349 - Principles of Management	S338 - Pavement Analysis and Design Engineering	S329 - Operations Research	S362 - Radar Systems	S230 - Energy Conservation and Audit	S311 - Micro Electro Mechanical Systems	OE-II S329 - Operations Research	S343 - Power Plant Engineering
13-10-2020 (Tuesday)	PE-IV S106 - Advanced Propulsion Systems	PE-IV S438 - Rural Road Technology S111 - Advanced Structural Design	PE-IV S157 - Cloud Computing	PE-IV S375 - Satellite Communications S425 - Wireless Sensor Networks	PE-IV S248 - FACTS Controllers S283 - HVDC Transmission	PE-IV S229 - Embedded Systems Design S107 - Advanced Sensors	PE-IV S326 - Object Oriented Software Engineering	PE-IV S353 - Production Planning and Control S365 - Rapid Prototyping
14-10-2020 (Wednesday)	OE-II S376 - Satellite Technology	OE-II S433 - Green Buildings S436 - Modern Construction Systems and Techniques S151 - Building Technology	OE-II S296 - Managing Innovation and Entrepreneurship	OE-II S140 - Automobile Electronics S425 - Web Technologies S246 - Evolutionary Computing Techniques S371 - Robot Engineering	OE-II S373 - Robotics and Automation S180 - Database Management Systems	OE-II S370 - Renewable Energy Sources	S270 - Industrial Management	OE-II S409 - Total Quality Management S273 - Innovation and Entrepreneurship

NOTE: (i) Any omissions or clashes in this time table may please be informed to the Controller of Examinations immediately.
(ii) Even if government / JNTUK / College declares holiday on any of the above dates, the examinations shall be conducted as notified only.
(iii) For any clarification in respect of the above examinations, please contact the Controller of Examinations.

Date: 03-10-2020

CONTROLLER OF EXAMINATIONS

[Signature]
PRINCIPAL

Copy to: 1. All H.O.Ds for N.A.
2. All Notice Boards

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)**

L.B. Reddy Nagar :: Mylavaram – 521 230 :: Krishna Dist.: A.P.

B.Tech. (VIII Semester) Regular/Supplementary Examinations

S375-SATELLITE COMMUNICATIONS

(ECE)

Time : 3 hours

Max. Marks : 75

PART-A

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define azimuth angle.	1M	CO1	L1
(b)	What is G/T ratio.	1M	CO2	L1
(c)	Define carrier recovery in TDMA.	1M	CO3	L1
(d)	Define antenna polarization.	1M	CO2	L1
(e)	What is MSAT?	1M	CO1	L1
(f)	List out types of launch vehicles.	2M	CO2	L1
(g)	Explain carrier to noise ratio of a satellite link.	2M	CO3	L2
(h)	List out the salient features of CDMA.	2M	CO4	L1
(i)	Explain the effective path length in connection with rain attenuation.	2M	CO2	L2
(j)	Explain VSAT.	2M	CO2	L2

PART-B

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Define and explain elevation and azimuth angles of a ground station for communication with an orbiting satellite.	7M	CO1	L2
(b)	What are the orbital perturbations that take place because of non-spherical nature of earth?	8M	CO1	L1
3(a)	Explain telemetry tracking and command subsystem.	7M	CO2	L2
(b)	Derive an expression for carrier to noise in satellite link.	8M	CO2	L4
4(a)	Explain the SPADE system with a neat diagram.	7M	CO3	L2
(b)	Explain with figure preassigned FDMA.	8M	CO3	L2
5(a)	Compare CATV and MATV system.	7M	CO4	L2
(b)	Explain atmospheric losses and ionospheric losses for satellite.	8M	CO4	L2
6(a)	Summarize the development of INTELSAT starting from the 1960s through the present.	7M	CO5	L2
(b)	Explain indoor and outdoor unit of direct broadcasting satellite TV reception with block diagram.	8M	CO5	L2
7(a)	Explain the different types of transmission losses in satellite link.	7M	CO4	L2
(b)	What is meant by preassigned FDMA? With a neat diagram explain single channel per carrier.	8M	CO3	L1
8(a)	The orbit for an earth orbiting satellite has an eccentricity of 0.15 and semi major axis of 9000 kms. Determine (i) periodic time (ii) apogee height (iii) perigee height. Given $h = 3.986 \times 10^5 \text{ km}^3/\text{s}^2$. Assume a mean value of 6371 kms for earth's radius.	7M	CO1	L5
(b)	State and explain the Kepler's law of planetary motion with neat diagram and necessary equations.	8M	CO1	L2

H.T.No

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R14

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

S140-AUTOMOBILE ELECTRONICS

(ECE)

Time : 3 hours

Max. Marks : 75

PART-A

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	What is rating capacity of batteries?	1M	CO1	L1
(b)	What is condition of starting?	1M	CO2	L1
(c)	Explain third brush regulation.	1M	CO3	L1
(d)	What is electromagnetic compatibility?	1M	CO4	L1
(e)	What is sensor for speed?	1M	CO5	L1
(f)	What is earth return system?	2M	CO1	L1
(g)	Discuss about construction of starter motor.	2M	CO2	L1
(h)	What are bridge rectifiers?	2M	CO3	L1
(i)	What is electromagnetic interference suppression?	2M	CO4	L1
(j)	What are solenoids?	2M	CO5	L1

PART-B

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Discuss principle and construction of lead acid battery.	7M	CO1	L2
(b)	What is meant by dazzling of head lights? Explain various anti dazzling devices with neat sketches.	8M	CO1	L1
3(a)	Explain principle and construction of starter motor.	7M	CO2	L2
(b)	Summarize series motor characteristics.	8M	CO2	L1
4(a)	What are shunt generation characteristics?	7M	CO3	L1
(b)	Explain voltage and current regulators, and compensated voltage regulator.	8M	CO3	L2
5(a)	Illustrate current trends in automotive electronic engine management system.	7M	CO4	L2
(b)	Explain electronic dash board instruments.	8M	CO4	L2
6.	Explain types of sensors in Automobile electronics.	15M	CO5	L2
7(a)	Discuss about head light and side light.	7M	CO1	L2
(b)	Explain about starter switch.	8M	CO2	L2
8(a)	What are bridge rectifiers?	7M	CO3	L1
(b)	Explain about onboard diagnostic system and warning system.	8M	CO4	L2

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

S248-FACTS CONTROLLERS

(EEE)

Time : 3 hours

Max. Marks : 75

PART-A

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	Define FACTS as per IEEE standards.	1M	CO1	L1
(b)	Classify variable impedance type shunt compensation devices.	1M	CO1	L1
(c)	Write the full form for SSSC.	1M	CO2	L1
(d)	Expand the term TCVR.	1M	CO2	L2
(e)	Write the full form for UPFC.	1M	CO2	L1
(f)	What are the loading capability limits in FACTS?	2M	CO1	L2
(g)	List the applications of Shunt compensation.	2M	CO4	L2
(h)	What are the modes of operation in TCSC?	2M	CO2	L2
(i)	Differentiate Voltage and Phase Angle Regulators.	2M	CO3	L2
(j)	List the advantages of UPFC.	2M	CO2	L2

PART-B

(Answer any FOUR questions. All questions carry equal marks)

2.	Describe the basic types of FACTS controllers with neat diagrams.	15M	CO1	L2
3(a)	Illustrate the mid-point shunt compensation of two - machine model of power system.	7M	CO1	L2
(b)	Explain the working principle of TSC and TCR.	8M	CO2	L2
4(a)	Describe the operation of TSSC with neat diagram.	7M	CO2	L2
(b)	Illustrate the objectives and applications of series compensation.	8M	CO4	L2
5(a)	Describe the basic internal control scheme for the delay angle controlled thyristor tap changer in voltage regulators.	7M	CO3	L2
(b)	Illustrate the operation of continuous thyristor controlled voltage regulators with resistive load.	8M	CO3	L2
6(a)	Elaborate the operation of UPFC with neat diagram	7M	CO2	L2
(b)	Draw and discuss the functional block diagram of shunt converter.	8M	CO2	L2
7(a)	Summarize the benefits of FACTS controllers.	7M	CO4	L2
(b)	Discuss the power flow control by Phase Angle Regulators.	8M	CO2	L2
8(a)	Illustrate the operation of STATCOM with neat diagram.	7M	CO4	L2
(b)	Draw and discuss the overall control structure of UPFC.	8M	CO2	L2

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B.Tech. (VIII Semester) Regular/Supplementary Examinations

S180-DATABASE MANAGEMENT SYSTEMS

(EEE)

Time : 3 hours

Max. Marks : 75

PART-A

(Compulsory question)

Q.No	Questions	Marks	CO	BL
1(a)	What is DBMS?	1M	CO1	L1
(b)	What is Super key?	1M	CO2	L1
(c)	What is Redundancy?	1M	CO3	L1
(d)	What is Transaction?	1M	CO4	L1
(e)	List out the different record formats.	1M	CO5	L1
(f)	What is Data Independence?	2M	CO1	L1
(g)	List the Aggregate functions in SQL.	2M	CO2	L1
(h)	What is Normalization?	2M	CO3	L1
(i)	Give one example for Serial Schedule.	2M	CO4	L1
(j)	List out the types of Indexing.	2M	CO5	L1

PART-B

(Answer any FOUR questions. All questions carry equal marks)

2(a)	Explain the Database system structure with a neat block diagram.	8M	CO1	L2
(b)	Illustrate weak and strong entity sets in ER-Model with suitable examples.	7M	CO1	L2
3(a)	Explain Selection, Projection, Rename, and Join operations in relational algebra with suitable examples.	8M	CO2	L3
(b)	Analyze the Importance of Entity integrity and Domain integrity by taking suitable examples.	7M	CO2	L4
4(a)	Explain the role of functional dependencies in normalization with a simple example.	7M	CO3	L2
(b)	Compare 3NF and BCNF. Convert an un-normalized relation into 3NF relation.	8M	CO3	L4
5(a)	Identify the problems in concurrent execution of transactions, How to solve them using lock based concurrency control?	8M	CO4	L3
(b)	Illustrate ACID properties for Transaction Management.	7M	CO4	L2
6(a)	Explain how RAID system will improve performance and reliability of the system.	8M	CO5	L2
(b)	Illustrate the disadvantages of B-Tree over B+ Tree.	7M	CO5	L2
7(a)	Analyze different types of database models with suitable examples.	8M	CO1	L4
(b)	Examine the role of Multi Valued Dependency in 4NF.	7M	CO3	L4
8(a)	Illustrate DML operations in detail with suitable examples.	8M	CO2	L3
(b)	Describe Write-Ahead Log Protocol in transaction management.	7M	CO4	L2
