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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

ENVIRONMENTAL IMPACT ASSESSMENT

(Civil Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | |
|--|---|
| Q.1 | <ul style="list-style-type: none"> i. What do you mean by EBM in EIA project? 1M ii. Name the different environmental parameters used in EIA. 1M iii. Mention the different stages of EIA process. 1M iv. Define environmental audit. 1M v. Describe product audit. 1M vi. What are the classification of impacts? 1M vii. What is EBM? 1M viii. What is deforestation? 1M ix. What is the fifth step in systematic approach for study of impacts on soil and ground water. 1M x. What are the different types of audit? 1M |
| Q.2(A) Explain in detail the salient feature and key elements of EIA process. 10M | |
| OR | |
| Q.2(B) What are different EIA methods? Describe any two in detail. 10M | |
| Q.3(A) Write about assessment of soil and ground water pollution. 10M | |
| OR | |
| Q.3(B) Describe the systematic approach for the study of impacts on soil and groundwater. 10M | |
| Q.4(A) What are the various phases associated with evaluation of biological environment impacts? 10M | |
| OR | |
| Q.4(B) Describe in detail the causes and effect of deforestation. 10M | |
| Q.5(A) Discuss in detail evolution of environmental audit and audit protocol. 10M | |
| OR | |
| Q.5(B) Define environmental audit according to ICC and differentiate between financial and environmental audit. 10M | |
| Q.6(A) Discuss a case study and the preparation of Environmental Impact assessment statement for rubber industry. 10M | |
| OR | |
| Q.6(B) Discuss and describe in detail the post audit activities. 10M | |

END

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

WIND ELECTRICAL SYSTEMS

(Electrical & Electronics Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Explain tip speed ratio.	1M
	ii.	Define lift and drag force.	1M
	iii.	What is Turbulence?	1M
	iv	What is the drive train model of wind turbine?	1M
	v.	What is soft starter.	1M
	vi	Why DFIG is called doubly fed?	1M
	vii.	Define the term Flicker.	1M
	viii.	What are the causes of harmonics?	1M
	ix.	Enumerate the advantages of Wind diesel systems	1M
	x.	Why battery storage systems required?	1M
Q.2(A)	(i)	Draw the torque speed curve of wind turbine.	5M
	(ii)	Explain the design considerations of wind turbine rotor.	5M
OR			
Q.2(B)		Explain with neat sketch different parts of HAWT.	10M
Q.3(A)	(i)	What are the requirements of site selection to construct wind turbine?	5M
	(ii)	Explain Yaw and Pitch control of a wind turbines.	5M
OR			
Q.3(B)	(i)	Paraphrase direct and indirect ways of measuring wind speed?	5M
	(ii)	Give an Outlook of Wind Resources available in India.	5M
Q.4(A)		Explain the types of Generators Used In Wind Turbine System in detail	10M
OR			
Q.4(B)	(i)	Draw the block diagram SCIG Wind Power System Configuration.	5M
	(ii)	Give an example of commercial fixed speed WECs.	5M
Q.5(A)		What is reactive power compensation and explain the methods in WECs	10M
OR			
Q.5(B)		What is power quality? What are the causes of power quality?	10M
Q.6(A)		Explain in detail about Hybrid Renewable Energy Systems.	10M
OR			
Q.6(B)	(i)	What is the role of government and policies for market development?	5M
	(ii)	Enumerate the advantages and disadvantages of Hybrid renewable energy.	5M

END

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – ^{Sep}~~May~~ 2020

AUTOMOTIVE TECHNOLOGY

(Mechanical Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | |
|-----------|---|-----|
| Q.1 | i. What is the function of alternator in automobile? | 1M |
| | ii. In a single dry plate clutch, torsional vibrations are absorbed by? | 1M |
| | iii. What is the calorific value of Diesel? | 1M |
| | iv. Which engine has larger size piston two stroke or four stroke? | 1M |
| | v. Name the pollutants from diesel engine | 1M |
| | vi. What is meant by valve overlap? | 1M |
| | vii. What is the relation between pressure ratio and compression ratio in a diesel cycle? | 1M |
| | viii. What is the condition that results in large quantities of CO emission in I.C. Engine? | 1M |
| | ix. Name the components of major pollutants from CI engines. | 1M |
| | x. What is the purpose of universal joints in transmission system? | 1M |
| <hr/> | | |
| Q.2(A) | List the components of automotive engine. Mention their functions and materials used for manufacturing. | 10M |
| OR | | |
| Q.2(B) | Derive the expressions for the thermal efficiency, work output and mean effective pressure of the Carnot cycle. | 10M |
| <hr/> | | |
| Q.3(A) | Explain the factors which influence the combustion chamber design in S.I and C.I Engines. | 10M |
| OR | | |
| Q.3(B) | What is meant by supercharging and turbocharging? What is the effect of supercharging on i) Power Output ii) Mechanical Efficiency iii) Fuel Consumption? | 10M |
| <hr/> | | |
| Q.4(A) | What are the objectives of supercharging? With a neat sketch explain centrifugal type supercharger. | 10M |
| OR | | |
| Q.4(B) | What are the functions of the lubrication system in an automobile? Explain with a neat sketch the pressure lubrication system. | 10M |
| <hr/> | | |
| Q.5(A) | Explain with a neat sketch, the epicyclic gear box. | 10M |
| OR | | |
| Q.5(B) | With a neat sketch explain the construction and working of single plate clutch. | 10M |
| <hr/> | | |
| Q.6(A) | What is the principle of overdrive? With sketch explain how overdrive is employed in transmission. | 10M |
| OR | | |
| Q.6(B) | Write a short note on propeller shaft and universal joint. | 10M |

END

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations ^{Sep}~~May~~ 2020

ENTREPRENEURSHIP

(Mechanical Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | | |
|--------|-------|---|-----|
| Q.1 | i. | How to raise the living standards of people through entrepreneur development? | 1M |
| | ii. | List various entrepreneurial opportunities in India? | 1M |
| | iii. | How brainstorming is differed from reverse brainstorming? | 1M |
| | iv. | List the success keys for evaluation of business plan? | 1M |
| | v. | What are the important categories of financing needed in new ventures? | 1M |
| | vi. | What are the basic forms of organizational plan? | 1M |
| | vii. | Why plant location is crucial for entrepreneur? | 1M |
| | viii. | What are the problems occurred in plant breakdown? | 1M |
| | ix. | What are the benefits of sitting over the standing position? | 1M |
| | x. | Why market segmentation is important? | 1M |
| <hr/> | | | |
| Q.2(A) | | Discuss the common traits of successful Entrepreneur. | 10M |
| | | OR | |
| Q.2(B) | | Discuss about women entrepreneurship and its emergence. | 10M |
| <hr/> | | | |
| Q.3(A) | | Explain the process of building the successful organisation | 10M |
| | | OR | |
| Q.3(B) | | Discuss the process of writing business plan. | 10M |
| <hr/> | | | |
| Q.4(A) | | Discuss the processes of motivating and leading teams to better performance on their job. | 10M |
| | | OR | |
| Q.4(B) | | Discuss various growth strategy of new venture expansion. | 10M |
| <hr/> | | | |
| Q.5(A) | | Explain briefly various plant maintenance techniques. | 10M |
| | | OR | |
| Q.5(B) | | Explain various production techniques in manufacturing industries. | 10M |
| <hr/> | | | |
| Q.6(A) | | Discuss various issues in the workplace design process. | 10M |
| | | OR | |
| Q.6(B) | | Explain material handling system and its importance. | 10M |

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Hall Ticket No:

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Question Paper Code: 14ME414

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – May 2020

TOTAL QUALITY MANAGEMENT

(Mechanical Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.

All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | | |
|--------|-------|--|-----|
| Q.1 | i. | What is the importance of TQM in industry? | 1M |
| | ii. | Name the any four Gurus of TQM. | 1M |
| | iii. | Why QMS is essential for industry | 1M |
| | iv. | Construct a scatter diagram by assuming your own data. | 1M |
| | v. | Find range for the following observations: 38, 42, 77, 96, 33, 89, 78, 53, 49, 37, 93. | 1M |
| | vi. | Define Benchmarking? | 1M |
| | vii. | Draw Deming Wheel? | 1M |
| | viii. | Write the 5S housekeeping techniques /elements? | 1M |
| | ix. | What is ISO? Enlist a few contemporary standards? | 1M |
| | x. | What is the defective rate in six sigma? | 1M |
| <hr/> | | | |
| Q.2(A) | | Explain the framework of TQM. | 10M |
| | | OR | |
| Q.2(B) | | Explain the Deming Philosophy to improve the quality. | 10M |
| <hr/> | | | |
| Q.3(A) | | Interpret quality function deployment with neat sketch. | 10M |
| | | OR | |
| Q.3(B) | | Explain the Ishikawa diagram by taking any example problem. | 10M |
| <hr/> | | | |
| Q.4(A) | | Briefly explain about the Deming cycle concept in TQM. | 10M |
| | | OR | |
| Q.4(B) | | Illustrate the concepts of taguchi analysis and loss function. | 10M |
| <hr/> | | | |
| Q.5(A) | | What are various types of cost of quality and explain. | 10M |
| | | OR | |
| Q.5(B) | | Outline the concept of supplier teaming and explain the elements of the supplier teaming | 10M |
| <hr/> | | | |
| Q.6(A) | | How can you make use of ISO 9000 series which was most recently revised and updated in 2000? | 10M |
| | | OR | |
| Q.6(B) | | Enlist the successes and failures of six sigma? | 10M |

END

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – ^{Sep}~~Oct~~ 2020

PRODUCT LIFE CYCLE MANAGEMENT

(Mechanical Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.

All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | |
|--------|--|-----|
| Q.1 | i. State the purpose of E commerce. | 1M |
| | ii. Lists the strategies of Product Lifecycle Management. | 1M |
| | iii. What are all the types of media commerce? | 1M |
| | iv. How can you make use of B to B and B to C forms in business approaches? | 1M |
| | v. What is extended enterprise? | 1M |
| | vi. How PLM challenge the automotive manufacturer? | 1M |
| | vii. State the difference between Engineering bill of material versus Manufacturing Bill of Material | 1M |
| | viii. What is PLM customization? | 1M |
| | ix. Why CAD is integrated in PLM? | 1M |
| | x. Mention any two benefits of supply chain management? | 1M |
| <hr/> | | |
| Q.2(A) | Compare between engineering bill of material and manufacturing bill material. | 10M |
| OR | | |
| Q.2(B) | Outline the benefits of product lifecycle management. | 10M |
| <hr/> | | |
| Q.3(A) | Discuss briefly about the strategies to achieve the vision in the continuum of PLCM? | 10M |
| OR | | |
| Q.3(B) | With a simple case study, explain PDM systems? | 10M |
| <hr/> | | |
| Q.4(A) | How the Product Data Management (PDM) can be formulated? | 10M |
| OR | | |
| Q.4(B) | Discuss briefly about PLM Business Objectives? | 10M |
| <hr/> | | |
| Q.5(A) | Discuss the three major tools for change along with the applications of PDM? | 10M |
| OR | | |
| Q.5(B) | How can you formulate the PLM strategy? | 10M |
| <hr/> | | |
| Q.6(A) | Explain the use of CAD and CAE in Product data management. | 10M |
| OR | | |
| Q.6(B) | Explain the role of PLM/PDM softwares in customization and project management? | 10M |

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

IOT NETWORKS

(ECE)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | | |
|--------|--|--|-----|
| Q.1 | i. | What are the challenges in IoT? | 1M |
| | ii. | List any four characteristics of IoT. | 1M |
| | iii. | List out some of the transport layer protocols. | 1M |
| | iv. | What is the purpose mail transfer agent? | 1M |
| | v. | What is data abstraction? | 1M |
| | vi. | What is SNMP? | 1M |
| | vii. | List out some of the sensors used in medical applications. | 1M |
| | viii. | What are the advantages in star topology? | 1M |
| | ix. | What are the features of galileo? | 1M |
| | x. | Illustrate the basic building blocks of an IoT device? | 1M |
| | | | |
| Q.2(A) | Explain in detail about domains and hierarchical zones in smart grid technology. | | 10M |
| OR | | | |
| Q.2(B) | Explain in detail about i) Home automation and ii) Industrial automation. | | 10M |
| | | | |
| Q.3(A) | Explain in detail about description and discovery protocols in web services. | | 10M |
| OR | | | |
| Q.3(B) | Illustrate in detail about XML-RPC with suitable diagrams. | | 10M |
| | | | |
| Q.4(A) | Illustrate the design principles of IoT architecture. | | 10M |
| OR | | | |
| Q.4(B) | Discuss about IoT reference model with necessary layers. | | 10M |
| | | | |
| Q.5(A) | Explain in detail about WAN & also mention the advantages and disadvantages. | | 10M |
| OR | | | |
| Q.5(B) | Illustrate bus topology with necessary diagrams. Mentions their merits and demerits. | | 10M |
| | | | |
| Q.6(A) | Design and explain any one of the application of Arduino with suitable example. | | 10M |
| OR | | | |
| Q.6(B) | Give a detailed description about ATmega328 registers. | | 10M |

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

SATELLITE COMMUNICATION

(ECE)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | |
|-----|--|----|
| Q.1 | i. Write Kepler's first law of motion. | 1M |
| | ii. What CDMA represents | 1M |
| | iii. What MEO represents | 1M |
| | iv. How many phases are present in QPSK? | 1M |
| | v. On which frequency in Ghz , Atmospheric losses are more. | 1M |
| | vi. Where VSAT is used. | 1M |
| | vii. What TTC &M represents. | 1M |
| | viii. Where Delta modulation is used. | 1M |
| | ix. How much time is required for geosynchronous satellite for one period? | 1M |
| | x. Which quality parameter of a space-link is measured in terms of the ratio | 1M |
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- | | | |
|-----------|--|-----|
| Q.2(A) | Discuss the various satellite orbits. | 10M |
| OR | | |
| Q.2(B) | Explain the equipment reliability and space qualification. | 10M |
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|-----------|---|-----|
| Q.3(A) | Discuss the QPSK Modulation and demodulation for satellite communication. | 10M |
| OR | | |
| Q.3(B) | Summarize the TDMA Multiplexing technique in satellite communication. | 10M |
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|-----------|---|-----|
| Q.4(A) | Explain the detail Block diagram of Earth station system for satellite communication. | 10M |
| OR | | |
| Q.4(B) | Discuss the following for the antenna.
(a) Feed systems and (b) tracking systems. | 10M |
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|-----------|---|-----|
| Q.5(A) | Derive and Summarize the VSAT System. | 10M |
| OR | | |
| Q.5(B) | Explain the multiplexing Technique for VSAT System. | 10M |
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|-----------|--|-----|
| Q.6(A) | Outline NGSO considerations. | 10M |
| OR | | |
| Q.6(B) | Summarize the functioning of GPS Receiver with suitable block diagram. | 10M |

END

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

CLOUD COMPUTING

(Computer Science & Engineering)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | |
|-----|---|----|
| Q.1 | i. Differentiate between Public and hybrid cloud. | 1M |
| | ii. Define private cloud. | 1M |
| | iii. What do you mean by IaaS? | 1M |
| | iv. List the major services provided by Cloud computing. | 1M |
| | v. How to design the software as a service for any current problem and justify your approach. | 1M |
| | vi. When the permission federation occurs? | 1M |
| | vii. Give a note on Zimbra. | 1M |
| | viii. List the features of Mobile Internet Devices. | 1M |
| | ix. Give the Amazon S3 merits and demerits. | 1M |
| | x. List advantage of Amazon simple DB. | 1M |
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- | | | |
|-----------|---|-----|
| Q.2(A) | List and explain the benefits and challenges of cloud Computing. | 10M |
| OR | | |
| Q.2(B) | Compare the limitations of cloud computing and its legal issues for implementing interoperable cloud. | 10M |
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- | | | |
|-----------|---|-----|
| Q.3(A) | Illustrate the Infrastructure as a service in cloud computing. | 10M |
| OR | | |
| Q.3(B) | Explain the evolution of cloud computing from SOA Architecture. | 10M |
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- | | | |
|-----------|--|-----|
| Q.4(A) | List and explain the Cloud security challenges. | 10M |
| OR | | |
| Q.4(B) | What is meant by Federation in the cloud? Explain in detail. | 10M |
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- | | | |
|-----------|---|-----|
| Q.5(A) | Classify the common standards in cloud computing. | 10M |
| OR | | |
| Q.5(B) | Evaluate the end-user access to Face book and YouTube | 10M |
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- | | | |
|-----------|---|-----|
| Q.6(A) | Explain the services provided by Microsoft Azure. | 10M |
| OR | | |
| Q.6(B) | Elaborate note on Amazon simple DB. | 10M |

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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech IV Year II Semester (R14) Regular & Supplementary End Semester Examinations – SEP 2020

SOFTWARE PROJECT MANAGEMENT

(COMPUTER SCIENCE & ENGINEERING)

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.

All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

- | | | | |
|-----|-------|--|----|
| Q.1 | i. | Differences between the conventional and modern software process. | 1M |
| | ii. | List the principles of modern software management. | 1M |
| | iii. | Justify the dividing of the four phases of software life-cycle into engineering and production stages. | 1M |
| | iv. | What are the seven workflows in the life cycle? | 1M |
| | v. | Compare and contrast engineering stage and production storage planning. | 1M |
| | vi. | How does the emphasis in the four teams evolve over the course of the entire project? | 1M |
| | vii. | Why are the metrics divided into management and quality indicators? | 1M |
| | viii. | How MTBF and maturity are related to each other? | 1M |
| | ix. | Define stand alone test. | 1M |
| | x. | What is common mission processing? | 1M |
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- | | | |
|-----------|---|-----|
| Q.2(A) | With the help of neat diagram, explain the waterfall model. | 10M |
| OR | | |
| Q.2(B) | Discuss the factors involved in conventional software management performance in detail. | 10M |
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- | | | |
|-----------|--|-----|
| Q.3(A) | Explain Artifact evolution over the software life-cycle. | 10M |
| OR | | |
| Q.3(B) | Define iteration. Discuss the sequence of activities in an iteration workflow. | 10M |
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- | | | |
|-----------|---|-----|
| Q.4(A) | ‘Two simple planning guidelines must be considered during project initiation and assessment’. Discuss them briefly. | 10M |
| OR | | |
| Q.4(B) | Many automation tools are available for software development process’. Support your answer | 10M |
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- | | | |
|-----------|--|-----|
| Q.5(A) | Give the reasons for selecting the seven core metrics in the software life cycle. Also discuss the evolutionary pattern of life cycle metrics. | 10M |
| OR | | |
| Q.5(B) | Illustrate the next generation software economics. | 10M |
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- | | | |
|-----------|--|-----|
| Q.6(A) | List and explain the different types of testing applicable in CCPDS-R model. | 10M |
| OR | | |
| Q.6(B) | Explain about the command centre processing and display system -replacement (CCPDS -R) | 10M |

END