Code No: MB1915/R19

MBA I Semester Regular/Supplementary Examinations, February-2024

LEGAL AND BUSINESS ENVIRONMENT

Time: 3 Hours **Max. Marks: 75**

Answer Any* FIVE *Questions one from each unit
Question No. 11 is Compulsory

UNIT-I

1.	a)	Explain the characteristics and importance of Business environment.	6M
	b)	Write a short note on the role of NITI Aayog in economic development of India.	6M
		(OR)	
2.	a)	Discuss the process of Environmental scanning.	6M
	b)	Write a note on Problems and challenges of environmental factors in business.	6M
		UNIT-II	
3.	a)	Elucidate the merits and demerits of Indian economic system?	6M
	b)	Explain the concept of political environment.	6M
		(OR)	
4.	a)	What is economic planning? State its objectives and merits of economic planning.	6M
	b)	Briefly discuss about advantages of industrial policies.	6M
		UNIT-III	
5.	a)	Define a contract. What is the nature and scope of the Indian Contract Act?	6M
	b)	"All Contracts are agreements but all agreements are not contracts" Discuss.	6M
		(OR)	
6.	a)	Write about Intellectual Property Rights? Explain.	6M
	b)	Briefly explain Negotiable Instrument act 1881.	6M
		UNIT-IV	
7.	a)	What is Partnership? Explain about the Indian Partnership Act 1932 and its advantages and disadvantages.	6M
	b)	Explain the Duties and Rights of Partners in business.	6M
		(OR)	
8.	a)	Discuss Cyber Frauds with examples.	6M
	b)	How Memorandum of Association is important in Company affairs?	6M
		UNIT-V	
9.	a)	Explain the Sales of Goods Act 1930.	6M
	b)	Define Sale and Agreement to Sale. Differentiate between Sale and Agreement to Sale.	6M
		(OR)	
10.	a)	What are the objectives of the Consumer Protection Act, 1986	6M
	b)	Discuss the role and functions of Consumer Protection Council.	6M

11. **CASE STUDY** 15M

In September 1997, an American company Rice Tec Inc, a small food technology company based in Taxes, was granted a patent by the US patent office to call the aromatic rice variety developed in USA 'Basmati'. Rice Tec Inc, had been trying to enter the international Basmati market with brands like 'Kasmati' and 'Texmati' described as Basmati-type rice with minimal success. Ultimately, the company claimed to have developed a new strain of aromatic rice by interbreeding basmati with another variety. They sought to call the allegedly new variety as Texmati or American Basmati. Rice Tec Inc, was issued the Patent number 5663484 on Basmati rice lines and grains on September 2, 1997. This was objected to by two Indian non-governmental organizations (NGOs) - Centre for Food Safety, an international NGO that campaigns against biopiracy, and the Research Foundation for Science, Technology and Ecology, an Indian environmental NGO who filed legal petitions in the United States. The Centre for Scientific and Industrial Research also objected to it. India challenged arguing that Basmati is unique aromatic rice grown in northern India and not a name Rice Tec could claim and only inventions can be patented. Consequently US patent office accepted India's basic position and the company had to drop 15 out of 20 claims that it had made. And for remaining claims, Rice Tec managed to evolve three new varieties of rice for which it got patent from United States Patent and Trademark Office (USPTO). Rice Tec was not handed over Basmati Brand but provided a patent for superior three strains' of Basmati developed by cross-breeding a Pakistani Basmati with semi-dwarf American variety. According to WTO agreement, geographic indication like Basmati can be protected legally and their misuse can be prevented. And Indian government was late in taking such actions.

Questions:

i. Can any of the following Viz., Turmeric, Neem and the name Basmati be patented?
ii. Evaluate the role played by Government of India in preventing the misuse of the name Basmati.

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Code No: M5703/R19

M. Tech. I Semester Regular/Supplementary Examinations, February-2024

VLSI TECHNOLOGY

Common to VLSI (57), VLSID (72), VLSISD (61) and VLSI Micro Electronics (76)

Time: 3 Hours **Max. Marks: 75**

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1. a Derive the relationship between drain to source current I_{ds} versus drain to source voltage V_{ds} in a non-saturated and a saturated region. 8M
   b Explain the different pros and cons of channel length modulation. 7M

OR

2. a What is the body effect in MOSFET? How it effect the threshold voltage? Explain with neat diagram. 8M
   b With the help of neat sketches, explain the MOS transistor operation in the Depletion mode. 7M

UNIT-II

3. a Give the fabrication steps for single metal CMOS n-well process and additional steps for bipolar devices. 8M
   b Briefly discuss about channel punch through, velocity saturation and hot electron effect. 7M

OR

4. a With neat sketch, explain twin-tub CMOS fabrication process. 8M
   b What is trench isolation? Explain its use in VLSI technology. 7M

UNIT-III

5. Give the design rules for the following cases with neat sketches 15M
   i) Polysilicon – polysilicon ii) n-type diffusion – n-type diffusion
   iii) n-type diffusion – p-type diffusion iv) metal 1 – metal 2.

OR

6. a What are the λ -based design rules? Give them for each layer. 8M
   b What is a stick diagram? Draw the stick diagram and layout for a CMOS inverter. 7M

UNIT-IV

7. a Briefly discuss about parity generator with the help of structured design approach and stick diagram. 8M
   b How controlling and observing can test a gate inside a combinational network? Explain with suitable example. 7M

OR

8. a Define the terms ‘failure’ and ‘fault‘? Discuss the different fault models. 8M
   b What are the need for testing and explain the two categories for testing. 7M

UNIT-V

9. a Draw the architecture of strict two-phase clocking discipline system? Explain how strict two-phase clocking types can combine. 8M
   b Implement two-bit shift register using dynamic latch. Explain its operation. 7M

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OR

10.	a	What is clock skew? What can we do about clock skew? Explain Skew in a clock distribution tree.	8M
	b	Briefly explain a level-sensitive scan design (LSSD) system with neat schematic.	7M

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Code No: M5805/R19

M. Tech. I Semester Regular/Supplementary Examinations, February-2024

ADVANCED OPERATING SYSTEMS

Common to CS&E (58) and CS (05)

Time: 3 Hours **Max. Marks: 75**

Answer any FIVE Questions One Question From Each Unit
All Questions Carry Equal Marks

UNIT-I

1.	a	Discuss the key components of Distributed System architecture.	7M
	b	Write about Global States of Distributed System.	8M
		OR	
2.		Discuss various solutions to implement Mutual exclusion in Distributed systems.	15M

UNIT-II

3.	a	What is the Byzantine General's problem? Suggest possible solutions to solve it.	7M
	b	What are the issues in deadlock detection and resolution? Briefly explain.	8M
		OR	
4.		Explain the following i) Log Structured file system ii) DFS architecture	15M

UNIT-III

5.	a	What are the central issues in implementing DSM? Explain any two algorithms for implementing DSM.	8M
	b	Write and explain the algorithm for Asynchronous Check pointing and Failure Recovery in Distributed System.	7M
		OR	
6.	a	Explain in detail various Load Distributing algorithms and compare their performance.	12M
	b	Write about Failure Tolerance and Recovery in Distributed Systems.	3M

UNIT-IV

7.	a	Explain the Access Matrix model and discuss the advantages and disadvantages of implementing Access Matrix in Distributed OS.	8M
	b	Discuss various issues associated with implementation of Security in Distributed Systems.	7M
		OR	
8.	a	Explain in details the steps of Data Encryption Standard algorithm with an example.	12M
	b	Differentiate between Symmetric and Asymmetric key encryption.	3M

UNIT-V

9.	a	Summarize the classification of Multiprocessing Operating System.	8M
	b	Briefly discuss the Timestamp-based Algorithms for Concurrency Control in Distributed Database Systems.	7M
		OR	
10.		Why is Synchronization important in Distributed Systems? Discuss the various ways to achieve Synchronization in Distributed Systems.	15M

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