

1B4A25244

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

**Fourth Semester BVOC AUTOMOBILE/BVOC SD Degree Examination, April 2025**

**A13 – Entrepreneurship Development**

(2021 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

**PART – A**

**All questions can be attended  
Each question carries Two mark.  
Ceiling -25 Marks**

1. What do you mean by entrepreneurship?
2. Write two objectives of entrepreneurship.
3. Define Entrepreneurship Development Programmes (EDP).
4. Differentiate between an entrepreneur and manager.
5. Write three challenges faced by women entrepreneurs?
6. What is Techno Park?
7. What is single window system?
8. Define a micro enterprise.
9. Write a note on Credit Guarantee Fund Trust.
10. Define industrial estate.
11. What is location decision?
12. What is social cost benefit analysis?
13. Discuss any two subsidies available for entrepreneurs.
14. Define project report.
15. What is KVIC

**PART – B**

**All questions can be attended  
Each question carries Five marks.  
Ceiling -35 Marks**

16. What are the objectives of project report?
17. Discuss the functions of Small Industrial Development Corporation (SIDCO) in promoting entrepreneurship.
18. Describe procedure for getting approval for foreign collaborations.
19. What are the measures taken by the Government for the revival of sick industrial unit.
20. Explain briefly various types of entrepreneurs.
21. State the importance of incentives in entrepreneurial development.
22. "Innovation is the most important function of an entrepreneur". Comment on this statement.
23. What are the importance of feasibility analysis?

**PART - C**

**Answer any two questions.  
Each question carries Ten marks.**

24. Explain role of the following institutions engaged in Entrepreneurship development in India  
a) DIC b) SIDBI c) KITCO
25. What are the features of MSMEs? Discuss the role and importance of Micro, Small, and Medium Enterprises (MSMEs) in the economic development.
26. Explain the sources of project ideas. Briefly explain criteria used in screening of project ideas?
27. Discuss the requirements of a good project report. What are the contents of a project report?

**2 x 10 = 20 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

**Fourth Semester BVOC AUTOMOBILE/ BVOC SD Degree Examination, April 2025**

**A14 – Public Health, Sanitation & Safety**

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

**PART – A**

**Answer *all* questions.**

**Each question carries Two mark.**

**Ceiling -25 Marks**

1. List two primary sources of water supply.
2. Name one waterborne and one airborne disease prevalent in India.
3. Define sanitation and explain its importance in public health.
4. Name two methods of killing microorganisms using heat.
5. What are two common causes of food poisoning?
6. What are the key objectives of Primary Health Care (PHC) in India?
7. What is the significance of PPE in occupational safety?
8. What are the key stages in microbial growth patterns?
9. How can E. coli infections be prevented in food handling?
10. What role does primary healthcare play in improving health outcomes in rural India?
11. Define occupational safety and health.
12. Define personnel hygiene and explain its significance in food handling.
13. State two preventive measures to reduce foodborne infections.
14. How is the Quality of Life Index related to health?
15. Name the four stages of wastewater treatment and their functions.

**PART – B**  
**Answer all questions.**  
**Each question carries Five marks.**  
**Ceiling -35 Marks**

16. Explain the sources of contamination and suggest effective measures for protection against contamination in food handling.
17. How can proper machine and tool handling reduce accidents at the workplace?
18. What are the key control measures for preventing foodborne diseases in food handling and preparation?
19. Explain the microbial growth patterns and list the factors that affect microbial proliferation in different environments.
20. Describe the role of Primary Health Centers (PHCs) in India's healthcare system. How do they contribute to the achievement of national health goals?
21. Describe various types of physical hazards in the workplace and their preventive measures.
22. Differentiate between foodborne infection and foodborne intoxication with suitable examples.
23. Discuss the sources of water supply, common water impurities, and the methods used for the purification of water.

**PART - C**  
**Answer any two questions.**  
**Each question carries Ten marks.**

24. Discuss the concept of health in terms of physical, mental, and social well-being. Explain how positive health impacts the quality of life index.
25. Discuss the causes and types of food poisoning, and elaborate on the differences between exotoxins and endotoxins.
26. Define sanitation and explain its significance in maintaining public health. Discuss the different factors that influence microbial growth and proliferation.
27. Analyse various accident prevention techniques in industrial environments. Discuss the importance of first aid in occupational safety and outline the key steps in providing first aid during an emergency.

**2 x 10 = 20 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

**Fourth Semester BVOC AUTOMOBILE Degree Examination, April 2025**

**SDC4AU17 – Electronic Engine Management System**

(2021 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

**PART – A**

**Answer all questions.**

**Each question carries Two marks.**

**Ceiling -25 Marks**

1. Explain MAP Sensor and MAF sensor
2. Give the disadvantages of Throttle body injection (TBI).
3. Give the use of Throttle Position Sensor (TPS)
4. What is the function of EGO sensor.
5. Describe solid injection systems in automobiles.
6. List the engine operating modes that affect fuel control.
7. Write short notes about Knocking in SI engine.
8. Explain the functions of the secondary fuel filter in diesel engines.
9. Briefly explain heavy duty Air cleaner.
10. Explain unit injector systems.
11. Classify fuel injection pump in diesel engine.
12. Name different components of battery ignition system.
13. What is the purpose behind using a contact breaker in the ignition system?
14. What are the firing orders commonly used for 4- and 6-cylinder engines?
15. What is ignition advance?

**PART – B**

**Answer all questions.**

**Each question carries Five marks.**

**Ceiling -35 Marks**

16. Explain various injection system controls.
17. Explain the working of 3-way catalytic converter with a neat sketch.
18. Describe Electronic Engine Control in detail.

19. Draw and explain the conventional fuel systems in Diesel engines.
20. What are the functions of ECU in CRDI.
21. What are the advantages of an electronic Fuel injection system?
22. Discuss thoroughly the constructional details of a distributor, explaining the functions of its various components and the materials used for the same.
23. Explain the Inductive ignition system with a neat diagram.

**PART - C**

**Answer any two questions.  
Each question carries Ten marks.**

24. With a suitable diagram, explain the working of TBI system.
25. With suitable diagrams, explain the working of open loop and closed loop control system used for fuel injection.
26. Draw and explain Common rail fuel injection system and Individual fuel supply system.
27. Write an essay on Capacitive and Inductive ignition systems.

**2 x 10 = 20 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVOC AUTOMOBILE Degree Examination, April 2025

SDC4AU18 – Digital Fundamentals

(2021 Admission onwards)

Time: 2 hours

Max. Marks : 60

**PART – A**

**Answer *all* questions.**

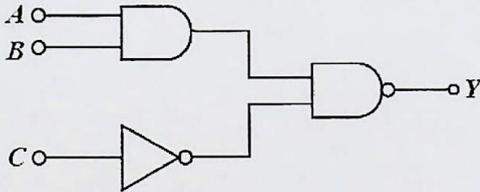
**Each question carries Two mark.**

**Ceiling -20 Marks**

1. Convert the hexadecimal number A3 to binary.
2. What is the 1's complement of the binary number 11001001?
3. Define the term "BCD" and give an example.
4. What is the truth table for the AND gate?
5. List the basic logic gates and their symbols.
6. Write the Boolean expression for an NOR gate.
7. Write the truth table for an SR flip-flop.
8. Define a set-reset latch.
9. What is the purpose of a shift register in digital systems?
10. What is meant by a bi-directional register?.
11. State the main difference between static RAM (SRAM) and dynamic RAM (DRAM).
12. What is the function of a Field Programmable Gate Array (FPGA)?

**PART – B**  
**Answer all questions.**  
**Each question carries Five marks.**  
**Ceiling -30 Marks**

13. Describe the Excess-3 code and give an example for the number 7.  
14. Write the equation of Y for the following logic circuit



15. Describe the operation of a T flip-flop. How is it different from an SR flip-flop?  
16. Explain the working of a D-flip-flop with a truth table.  
17. Describe an up/down synchronous counter and explain how it can count both upwards and downwards.  
18. Describe the concept of EEPROM. How is it different from EPROM in terms of erasing and reprogramming?  
19. Explain the operation and applications of ROM and PROM. How do they differ in terms of data storage and reprogramming?

**PART - C**  
**Answer any One questions.**  
**Each question carries Ten marks.**

20. Explain the operation of a Full Adder and a Half Adder with their truth tables. Also, give the Boolean expressions and their implementation using logic gates.  
21. Explain the operation of a 4-bit asynchronous (ripple) counter. Discuss its limitations and applications in digital systems.

**1 x 10 = 10 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

**Fourth Semester BVOC AUTOMOBILE Degree Examination, April 2025**

**SDC4AU19 – Microprocessors & Microcontrollers**

(2021 Admission onwards)

Time: 2hours

Max. Marks : 60

**PART – A**

**Answer *all* questions.**

**Each question carries Two mark.**

**Ceiling - 20 Marks**

1. What is the significance of a single-chip microcomputer?
2. Can you explain the functions of the Timing and Control Unit in the 8085 microprocessor?
3. What is a machine cycle in the 8085 microprocessor?
4. What is the function of the instruction "MOV" in 8085 assembly language programming?
5. What are the types of instructions in the 8085 instruction set?
6. How does the stack pointer function in the 8085 microprocessor?
7. How do vectored interrupts differ from non-vectored interrupts in the 8085 microprocessor?
8. What is the difference between ROM and RAM ?
9. Explain the concept of address space partitioning in the 8085 microprocessor.
10. What are Special Function Registers (SFRs) in the 8051 microcontroller?
11. How many I/O pins are available on the 8051 microcontroller?
12. What is the purpose of the ADC and DAC?

**PART – B**  
**Answer *all* questions.**  
**Each question carries Five marks.**  
**Ceiling - 30 Marks**

13. What is the instruction cycle? Explain the three phases involved.
14. What is the register organization in the Intel 8085 microprocessor? Explain the role of each register.
15. Write an 8085 assembly language program to add two 8-bit numbers.
16. Explain the stack operations in the 8085 microprocessor with examples.
17. Describe the working of counters and time delays in the 8085 microprocessor.
18. Describe the working of the 8257 DMA controller. How does it facilitate direct memory access?
19. Describe the various addressing modes used in the 8051 microcontroller with examples.

**PART - C**  
**Answer any *One* questions.**  
**Each question carries Ten marks.**

20. Discuss the working of the Arithmetic Logic Unit (ALU) in the Intel 8085 microprocessor and how it interacts with the registers and other components.
21. Describe in detail the memory-mapped I/O and I/O-mapped I/O schemes. Provide the advantages and disadvantages of each scheme in terms of address space, complexity, and performance.

**(1 x 10 = 10 Marks)**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester BVOC SD Degree Examination, April 2025

**SDC4IT19 – Dot Net Programming**

(2021 Admission onwards)

Time: 2 hours

Max. Marks : 60

**PART – A**

**Answer all questions.**

**Each question carries Two mark.**

**Ceiling -20 Marks**

1. What is the role of CLR?
2. What is the difference between a dataset and a data table?
3. What is a namespace in C#?
4. What are the different types of exceptions in c#?
5. How do you connect a crystal report to a data source?
6. Explain the syntax for each loop with an example?
7. What is the difference between a default constructor and parameterized constructor?
8. Explain the concept of string immutability?
9. What is Navigation control in asp.net?
10. What is event driven programming?
11. What are access modifiers and how do they affect the visibility of class members?
12. Write the benefits of using image lists.

**PART – B**

**Answer all questions.**

**Each question carries Five marks.**

**Ceiling -30 Marks**

13. Discuss the benefits of using the .net framework for application development.
14. Define enumeration in C#. and discuss the key benefits of using enumerations in your code with examples.
15. Explain the difference between an abstract class and an interface in C# with examples
16. Explain the difference between a “connected” and a “disconnected” data access approach in ADO.NET
17. Write a C# program to read n values in an array and display them in reverse order.
18. Describe how SQL is used to retrieve and manipulate data in .net applications.
19. What is XML and how is it used in asp.net applications?

**PART - C**

**Answer any *ONE* question.  
question carries Ten marks.**

20. Discuss object-oriented programming (OOP) in C#. How do classes, objects, and inheritance work in .NET?
21. Discuss the windows forms and controls in C#. How are they used in application development?

**1 x 10 = 10 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester BVOC SD Degree Examination, April 2025

**SDC4IT18 – Computer Security**

(2021 Admission onwards)

Time: 2 hours

Max. Marks : 60

**PART – A**

**Answer all questions.**

**Each question carries Two mark.**

**Ceiling -20 Marks**

- 1 Define computer security?
- 2 What are the three main goals of computer security?
- 3 What is the difference between authentication and authorization?
- 4 What is encryption in computer security?
- 5 What is a firewall?
- 6 Name two types of malware?
- 7 What is a cryptographic key?
- 8 What is a digital signature?
- 9 What is software security?
- 10 What is a computer worm?
- 11 What is an intruder in the context of computer security?
- 12 What is a buffer overflow in software security?

**PART – B**

**Answer all questions.**

**Each question carries Five marks.**

**Ceiling -30 Marks**

- 13 Explain the concept of encryption and its importance in securing data.
- 14 What is malicious code and how does it affect computer systems and networks?
- 15 Describe the concept of a digital signature and its role in verifying the authenticity of data.
- 16 What is a buffer overflow and how can it be used by attackers to exploit a system?
- 17 Explain the difference between a virus and a worm, highlighting how worms spread across networks.
- 18 Discuss the different types of intruders and how organizations can defend against them.
- 19 Differentiate Symmetric and Asymmetric cryptography

**PART - C**

**Answer any *ONE* questions.  
question carries Ten marks.**

- 20 Discuss the importance of software security in modern computing, and describe some common vulnerabilities and best practices for mitigating them.
- 21 Discuss the significance of TCP Attacks, DNS Vulnerabilities in Network security protocol.

**1 x 10 = 10 Marks**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE  
Fourth Semester BVOC SD Degree Examination, April 2025

**SDC4IT17 – Operating Systems**

(2021 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

**PART – A**

**Answer *all* questions.**

**Each question carries Two mark.**

**Ceiling -25 Marks**

1. What are the functions of an operating system?
2. What are the advantages of parallel systems?
3. What is meant by booting?
4. Explain parallel systems in brief.
5. Define process abstraction.
6. What is the role of system calls in process management?
7. Define threads with an example.
8. What is CPU scheduling?
9. Define deadlock in operating systems.
10. What is demand paging?
11. Define segmentation in memory management.
12. What is virtual memory?
13. List various file allocation methods.
14. What are device drivers?
15. Define spooling.

**PART – B**

**Answer *all* questions.**

**Each question carries Five marks.**

**Ceiling -35 Marks**

16. Explain the historical evolution of operating systems.
17. Write a short note on distributed systems.
18. Explain process hierarchy with a suitable example.
19. Compare any two CPU scheduling algorithms.
20. Write a note on deadlock detection.

21. Explain the concept of address binding.
22. Write a detailed note on the file system hierarchy.
23. Explain the functions of device management.

**PART - C**

**Answer any *TWO* questions.  
Each question carries Ten marks.**

24. Explain the functions and characteristics of operating systems in detail.
25. Discuss the various deadlock prevention and avoidance techniques.
26. Explain page replacement algorithms in detail.
27. Explain the process creation and termination in Unix/Linux operating systems.

**2 x 10 = 20 Marks**