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Name: ....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVOC SD Degree Examination, April 2022

GEC4SE11 - Principles of Software Engineering

(2020 Admission onwards)

Time: 2 ½ hours   Max. Marks : 80

PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1. What is DFD?

2. Define Software Testing.

3. What is Requirement Engineering?

4. What are the various categories of Software?

5. Mention the drawbacks of Spiral Model.

6. What is COCOMO model?

7. What is Cohesion?

8. What is Feasibility Study?

9. Define Cyclomatic Complexity.

10. What do you meant by Reverse Engineering?

11. Mention the importance of Software Configuration Management (SCM).

12. What is Top-Down Integration Testing?

13. What is Risk Analysis in software management?

14. Define Debugging.

15. What is Modularization?

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

16. Differentiate between Black Box Testing and White Box Testing.

17. Explain Water Fall Model with neat diagram.

18. Mention the difference between Verification and Validation.

19. Write a short note on Software Testing Process.

20. What are the characteristics of SRS?

21. Explain RAD Model.

22. Explain different types of Cohesion.

23. Explain the Concepts of DFD.

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

24. What do you mean by System Testing? Explain each types of System Tests in detail.

25. Describe the importance of Software Engineering? Explain the difference steps in developing a software system.

26. What are the different Software Development Life Cycle Models? Explain any two SDLC Models.

27. What are Coupling and Cohesion? Explain different types of Coupling and Cohesion.

(2 x 10 = 20 Marks)

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(2 x 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester BVOC AUTO/BVOC SD Degree Examination, April 2022

GEC4EG10(A) - Zeitgeist – Readings on Contemporary Culture

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

I. Answer the following questions in two or three sentences (each question carries 2 marks each):

1. What are Harari's observations on about the French Revolution?

2. Why did the Hindu lawyer in the asylum go mad?

3. What is the context of the poem "Refugee Blues"?

4. Comment on the symbol of the open window in "The Story of an Hour"?

5. What is the tone of the poem "On Killing a Tree"?

6. Why is the Preamble called the 'identity card of the Constitution?

7. Why did Aaron realize that the haystack could save them?

8. Who was Bruce Jenner?

9. Who declared himself to be 'Quaid-e-Azam' in "Toba Tek Singh"?

10. What is the difference between to Claim an education and to receive an education?

11. Explain: "If we let them in, they will steal our daily bread".

12. Why couldn't the narrator go often to the court to follow the trial of her potential husband?

13. What is Harari's reaction to the statement that married people are happier on average than singles?

14. What is freedom according to Tagore as revealed in his poem 'Freedom'?

15. What did the teacher ask the students to do the next after the picnic?

(Ceiling 25)

II. Answer the following questions in a paragraph of 100 words (each question carries 5 marks each

16. Tagore's concept of freedom.

17. What will happen if Gandhi's assassin is released?

18. The step by step process needed for killing a tree.

19. How does Adrienne Rich elaborate concept of Responsibility to oneself?

20. Chopin's treatment of marriage and family in "The Story of an Hour".

21. The pessimism in "What It's like to Be Transgender".

22. Comment on the politics of food in The Outcaste.

23. The relation between human happiness and self-delusion, according to Harari.

(Ceiling 35)

III. Write essays on any two of the following questions in 250 words:

24. Analyze "Toba Tek Singh" as a caustic satire on the absurdity of partition.

25. Chief Seattle's speech is a "powerful plea for respect of Native Americans' rights and environmental values". Substantiate.

26. "Claiming an Education" is a critique of the present System of education from a woman's perspective. Discuss.

27. How does Auden convey the horror of war, ethnic phobia and social exclusion in "Refugee Blues" ?

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PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1. Compare analog systems and digital systems?

2. Convert the following binary numbers to decimal numbers

   a) 10111011 b) 111011.1011

3. Simplify the logic expression A+ (A.B)?

4. Compare half adder and full adder?

5. Define registers and state the need for registers?

6. List the applications of counters?

7. What is microprocessor? List out any 3 microprocessors developed by Intel?

8. List out different types of flags in 8085 microprocessors?

9. Mention the purpose of SID and SOD lines?

10. What is machine code?

11. Compare MOV and MVI instructions?

12. Write instructions to load the number A5H in register B and display the number at output port labeled PORT 1?

13. Define stack?

14. What is TRAP?

15. How the interrupts are affected by system reset?

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

16. With examples explain the conversion of octal number system into decimal number system?

17. List out different theorems of Boolean algebra?

18. With diagrams and tables explain the operation of T Flipflop?

19. Compare address bus and data bus?

20. What is Register Array in MPU?

21. Specify the register contents and the flag status as the following instructions are executed.

MVI A, 5EH

ADI A2H

MOV C, A

HLT

22. What is a flow chart? Explain different representation used in the construction of flow chart?

23. What is masking and why it is required?

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

24. Using K-map method, simplify the following expression to their minimal SOP form $F(A,B,C,D)=\Sigma m(2,3,12,13,14,15)$

25. What is architecture of a Microprocessor? Draw the architecture of 8085 MPU with signals.

26. Write an assembly language program and draw the flow chart to divide two 8 bit numbers stored at address 2450 and 2451?

27. Compare SIM and RIM instruction with example?

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(Pages : 2) Reg. No:.........................

Name: ....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVOC AUTO Degree Examination, April 2022

SDC4AE13 – Electronic Engine Management Systems

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1. List out any four problems with carburetion.

2. Explain the relationship between oxygen sensor output and fuel mixture quality.

3. Explain stoichiometric ratio.

4. Explain the common sensor employed with ECU.

5. List out the different components in petrol injection systems.

6. What are the advantages of Bosch Motronic systems?

7. Explain how TEL affects the life of a Catalytic converter?

8. Explain mechanical throttle body.

9. Explain the functions of the primary fuel filter in diesel engines.

10. Briefly explain Light duty Air cleaner.

11. Explain about the injection pressure of 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 the mixture strength requirements of an automobile engine running on a petrol at different engine speed.

17. Explain the open loop and closed loop in FBC.

18. Explain Homogeneous lean burn mode and Combined Homogeneous stratified charge mode.

19. What are the advantages of Bosch DI Motronic systems?

20. Draw the block diagram and explain the functions of Diesel injection system components?

21. Explain Common rail fuel injection with a neat diagram?

22. Describe clearly the function of a condenser in the ignition system. Explain its constructional details?

23. Enlist various spark plug defects. Explain their probable causes and suitable remedies in each case.

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

24. Classify fuel injection according to location of injector and duration of injector.

25. Draw the layout and explain the Electronic petrol injection system.

26. What are the common symptoms of fuel system malfunction and possible faults?

27. Write an essay on Capacitive and Inductive ignition system.

(2 x 10 = 20 Marks)

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Reg. No:............................
Name: ....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVOC SD Degree Examination, April 2022

SDC4IT15 – Advanced Computer Networks

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1. Differentiate FTP and TFTP.

2. Write down the characteristics of UDP.

3. Differentiate IPV4 and IPV6.

4. Describe about reserved ports?

5. What are the elements of wireless networks?

6. What is routing?

7. What is WiMax?

8. What is SNMP ?

9. What is semaphores ?

10. What is CDMA.

11. What is ISDN.

12. Explain IEEE 802.11.

13. What is Message Queues.

14. Write use of Pipes

15. What is Socket ?

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

16. With the help of a diagram, explain the architecture of DNS?

17. What are semaphores? Explain how semaphores are used in IPC?

18. Explain the advantages of asynchronous I/O operations.

19. List the advantages and disadvantages of Wireless LAN.

20. Explain about RTS-CTS exchange.

21. Explain about user datagram protocol.

22. Explain about SMTP.

23. Explain about Broadband technologies.

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

24. Draw the architecture of TCP/IP and explain the functions of each layer.

25. What is Mobile IP? Explain packet delivery and agent discovery in Mobile IP.

26. Explain Transport layer protocols.

27. Explain various wireless technologies.

2 x 10 = 20 Marks

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Reg. No:.............................

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVOC SD Degree Examination, April 2022

SDC4IT14(E2) – Python Programming and Mobile Web

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1 List features of python.

2 What are the built-in data types in python?

3 Differentiate between lists and tuples in python.

4 Explain inheritance in python.

5 Explain function overloading.

6 Differentiate between errors and exceptions.

7 List attributes of font tag.

8 What are image link?

9 What are the uses of anchor tag?

10 Write down the significance of form validation.

11 Expand XAMPP. What is it used for?

12 Define URL.

13 What is MySQLdb?

14 Write down and explain the syntax used for SQL UPDATE command.

15 Write down the important data types used in MySQL.

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

16   Write a note on types of operators and Expressions in python.

17   Explain recursive functions with an example program.

18   Discuss the significance of __init__ in python.

19   Explain any five basic formatting tags in HTML.

20   Give a detailed overview of input form controls.

21   Explain how data exchange takes place between form and server.

22   Explain data insertion and deletion using MySQLdb-python.

23   Discuss the steps in writing and executing a query on MySQLdb using python.

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

24   Explain the following

      a. List, tuple and set in python.

      b. Local and Global variables in python. Explain how to access and change global variable value within a function.

25   Discuss capturing, validation and processing of data with python server-side scripting.

26   What are dictionaries in Python language? Write a program to check the presence of a key in the dictionary and find the sum of all its values.

27   Discuss different form controls used in html with syntax details.

(2 x 10 = 20 Marks)

(Pages : 2)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fourth Semester BVO AUTO/ BVOC SD Degree Examination, April 2022

GEC4IT11/SDC4IT13- INTERNET OF THINGS (IOT)

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART – A
Answer *all* questions.
Each question carries Two mark.
Ceiling -25 Marks

1. Discuss any two real time applications of IOT.

2. What is Raspberry pi ?

3. What are the three important parts of Arduino?

4. What is Internet of Things and its characteristics?

5. What are the operating systems supported by Pi?

6. Give some examples of sensors that can be used in agriculture?

7. Define sensor. Give an example.

8. What are the benefits of IoT?

9. How to close a file Using Python?

10. What are interrupts in Arduino? Mention some of the wearable Arduino boards.

11. List mostly used sensor types in IoT.

12. What are the functions used to read analog and digital data from a sensor in Arduino?

13. Give any 4 characteristics of python.

14. Give any four features of Rasberry Pi ?

15. What is the hardware required for controlling LED with using Arduino?

PART – B

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

16. Briefly describe applications of the Raspberry Pi?

17. Explain the different stages of IoT?

18. Differentiate between Arduino and Raspberry Pi?

19. Explain Raspberry Pi. How to run Raspberry pi in headless mode?

20. Write a simple program to print "Hello World" in Arduino.

21. Define setup() and loop() functions in Arduino?

22. What are the main components of Raspberry Pi?

23. What are the characteristics of IOT?

PART - C

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

24. Discuss any one Programming interface used with Raspberry Pi.

25. a. Define IoT & List mostly used sensors types in IoT.

   b. Briefly Explain Advantages & Disadvantages of IoT

26. Explain in details about structures used to repeat instructions or loops in Arduino.

27. What is Serial Transmission? Differentiate between Serial Monitor & Serial plotter.

(2 x 10 = 20 Marks)