

1B4N24007

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE/BVOC SD Degree Examination,

November 2024

A11 – Basic Mathematics and General Awareness

(2021 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

PART A**Answer *all* questions.****Each question carries *Two* marks.**

1. Find the average of the first 100 positive integers.
2. If $7 : x = 17.5 : 22.5$, find the value of x .
3. A train travels at 82.6 km/hr . How many metres will it travel in 15 minutes?
4. A watch is sold for Rs. 14500 at a loss of 20%. What is the cost price?
5. A's son B is married with C, whose sister D is married to E, the brother of B. How is D related to A?
6. In a certain code, RAM is written as SBN. What is the code of LAMP?
7. Six friends A, B, C, D, E and F are sitting around a hexagonal table, each at a corner. A is second to the left of F. B is the neighbour of C and D. E is second to the left of D. Who is sitting opposite to E?
8. What are the characteristics of research?
9. What are the applications of ICT in research?
10. What are the features of MSWord?
11. What is an operating system?
12. Explain one type of bank account.
13. What are two features of a debit card?
14. Define a loan.
15. What is money laundering?

[Ceiling = 25 Marks]

PART B

Answer *all* questions.

Each question carries *Five* marks.

16. The ratio of the present ages of a mother and her daughter is 7: 1. Four years ago, the ratio of their ages was 19: 1. What will be the mother's age after four years?
17. Manu invests Rs. 72318, which is 17% of his annual income. What is his monthly income?
18. What are the different types of research?
19. What is experimental research?
20. Discuss the features of Database Management System (DBMS)?
21. Write a note on the disadvantages of internet.
22. What are the functions and benefits of Cash Deposit Machine(CDM)?
23. Explain mutual funds.

[Ceiling = 35 Marks]

PART C

Answer any *two* questions.

Each question carries *Ten* marks.

24. (a) A bag contains 6 white balls and 4 black balls. Two balls are drawn at random. What is the probability that both balls are of same colour?
(b) In how many different ways can the letters of the word 'DIRECTOR' be arranged so that the vowels always come together?
25. What are the different steps in the research process?
26. Explain various solutions to computer security threats.
27. What are the different functions of a bank?

[2 x 10 = 20 Marks]

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE/BVOC SD Degree Examination, November 2024

A12 – Professional Business Skills

(2019 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 professional communication?
2. What is verbal communication?
3. Explain professional presentation.
4. What is e- content?
5. What is online library?
6. What is Virtual reality?
7. Differentiate between data and information.
8. What is AI? Explain
9. What is unstructured data?
10. What is green computing?
11. What is digital society?
12. What is hacking?
13. What is meant by B2C?
14. Define digital marketing.
15. What is search engine?

(2 × 15 = 30 Marks, Ceiling 25 Marks)

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

16. What is email etiquette ?
17. What are the advantages and limitations of email communication?
18. What are the advantages of online library?
19. What are the disadvantages of e- book? Explain.
20. What are the features of new generation computers? Explain.
21. What are the duties and responsibilities of Data Analyst?
22. What are the reasons for cyber addiction?
23. What are the disadvantages of online education?

(5 × 8 = 40 Marks, Ceiling 35 Marks)

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

24. Explain the role of data scientist in business and society.
25. Explain the various business models in digital marketing.
26. What are the different opportunities and threats of IT infrastructure? Explain.
27. Define professionalism. State it's features. Discuss the traits and qualities of a good professional.

(2 x 10 = 20 Marks)

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Reg.

No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE Degree Examination, November 2024

GEC3CM11 – Human Resources Management

(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 is competitive advantage?
2. Define personnel management.
3. What is job enlargement?
4. What is selection?
5. What is transfer?
6. What is job specification?
7. What is on-the-job training?
8. What is retrenchment?
9. Define formal interview?
10. What is career development?
11. Define performance appraisal.
12. Define promotion.
13. What is discipline?
14. Discuss about grievance redressal.
15. What is placement?

(2 × 15 = 30 Marks, Max. Ceiling 25 Marks)

PART – B

Answer *all* questions.

Each question carries Five marks.

Ceiling -35 Marks

16. What are the features of Human Resource Management?
17. What are the advantages of EHRM?
18. Differentiate between recruitment and selection.
19. Discuss the importance of employees selection.
20. What are the objectives of training of employees?
21. Define induction. What are its objectives?
22. What are the different wage systems ?
23. What are the benefits of career planning. Explain.
24. What is the importance of labour participation in management?
25. What are the features of a good grievance procedure?

(5 × 8 = 40 Marks, Max. Ceiling 35 Marks)

PART - C

Answer any *two* questions.

Each question carries Ten marks.

26. What is recruitment? What are the sources of recruitment? Explain.
27. Define Human Resource Management. Explain the concepts and scope of HRM.
28. What is grievance ? What are its causes ? Explain.
29. What is compensation management? What are its features and importance? Explain.

(2 x 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE Degree Examination, November 2024

SDC3AU12 – Power Systems and Power Electronics

(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 BJT? Draw its symbol.
2. What is Power diode?
3. Explain the purpose of driver circuits in power electronics switches.
4. What is a square wave inverter?
5. Write a note on AC voltage controller.
6. Define chopper.
7. Draw the circuit diagram for Buck-Boost converter.
8. What is conventional and non-conventional source of energy? Give examples.
9. What is the skin effect?
10. What is the ferranti effect?
11. What is differential relay?
12. What is meant by arc quenching?

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

13. Explain the turn off characteristics of SCR.
14. What is cycloconverter, draw and explain the working of Three phase cycloconverter.
15. With neat diagram discuss the working of single phase inverter.
16. With a neat diagram explain the working of a buck converter.
17. Explain corona loss and also factors affecting corona.
18. What are the classifications of relays?
19. Enlist the different arc quenching medium used in circuit breakers.

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

20. List the types of choppers and explain its principle of operation.
21. Give a comparison between over head system and underground system.

1 x 10 = 10 Mark

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE Degree Examination, November 2024

SDC3AU13 – Automotive Electrical and Electronic Systems

(2021 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

PART-A

Answer all questions.

Each question carries Two marks.

Ceiling -25 Marks

1. Describe the positioning of battery in a vehicle
2. What could be the possible causes for Low state of charge fault.
3. Write down the charging chemical reaction in a battery.
4. If the engine does not start when trying to start what would be the possible reasons?
5. What are the factors to be accounted for while we design a starter system?
6. Explain the advantages of a three phase alternator.
7. Compare diode rectifier and IC voltage regulators.
8. What could be the possible causes for Low capacity battery fault.
9. Draw the dashboard symbol for high beam light.
10. Explain the parking brake warning system.
11. How do we troubleshoot switch and push button with a Multi-meter?
12. Explain the term continuity checking.
13. How do we troubleshoot a fuse with a Multimeter?
14. List down the procedures in a six stages of fault finding approach.
15. If automobile lights are found to be not working. List down the possible faults.

PART- B

Answer all questions.

Each question carries Five marks.

Ceiling - 35 Marks

16. Explain the procedure for battery replacement.
17. Discuss the cause of failure of vehicle battery.
18. Explain starting circuit voltage drop test?
19. Draw and explain the diagram of intermediate transmission used in permanent magnet starters.

20. Differentiate between alternator and dc generator.
21. Explain rectifiers used vehicle charging systems.
22. Explain electronic diesel injection system.
23. Explain the importance of hand or eye checking in fault diagnosis and maintenance.

PART - C

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

24. What are the different physical and electrical tests that can be conducted in a battery.
25. Explain conditions at starting and behavior of the starter during starting.
26. Write an essay on vehicle electrical loads.
27. Explain onboard diagnostic system.

(2 x 10 = 20 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC AUTOMOBILE Degree Examination, November 2024

SDC3AU14 – Electrical Machines and Machine Drives

(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 losses that occur in a transformer? Give the necessary equations.
2. Define armature reaction.
3. Give a brief note on instrument transformer.
4. Explain the terms stator and rotor in DC machines.
5. What is meant by Synchronous speed? Give its equation.
6. What is hunting in a synchronous machine?
7. Classify induction motors based on their construction.
8. Give some applications of single-phase induction motor.
9. Why starter is necessary for the induction motors?
10. List out the applications of Switched Reluctance Motor.
11. What is Linear Induction Motor?
12. What are the applications of BLDC motors?
13. What are the essential parts of electric drive?
14. Explain the factors on the choice of an electrical drive.
15. Explain the speed-torque conventions used in multi-quadrant operations.

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

16. Explain generator action and motor action.
17. Derive the emf equation of transformer.
18. Explain the necessary conditions for parallel operation of alternators.
19. Explain the working of three phase induction motor?
20. Illustrate torque-speed characteristics of an induction machine.
21. Mention the advantages of permanent magnet brushless D.C. motor.
22. Explain Repulsion motor. Also give its application.
23. Compare AC drives and DC drives.

PART - C

Answer any *two* questions.

Each question carries Ten marks.

24. Draw and explain about the constructional details of a D.C. generator and classify its types.
25. Draw a neat sketch showing the various parts of a synchronous machine. Give the brief explanation.
26. With neat sketches explain the principle of operation of three phase induction motors.
27. Compare the constructional features of permanent magnet synchronous motor - Hysteresis motor- Synchronous Reluctance Motor.

2 x 10 = 20 Marks

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester BVOC SD Degree Examination, November 2024
SDC3IT11 – Software Engineering
(2021 Admission onwards)

Time: 2 hours

Max. Marks: 60

PART – A

Answer *all* questions.

Each question carries **Two** mark.

Ceiling -20 Marks

1. Define Software Engineering
2. List the advantages of prototype model.
3. Compare validation and verification.
4. Define decision table.
5. List out the characteristics of SRS.
6. Define coupling.
7. Explain modularization process.
8. Describe function oriented design.
9. Compare top-down and bottom-up testing strategies.
10. Why do we need maintenance in software?
11. List the different CASE tools used during software development.
12. Differentiate Product and Process metrics

PART – B

Answer *all* questions.

Each question carries **Five** marks.

Ceiling -30 Marks

13. Compare spiral and prototyping model.
14. Explain Advantages and disadvantages of RAD model.?
15. Explain about SQA.
16. Explain the different types of cohesion.
17. Differentiate software reengineering and reverse engineering.
18. Explain information modeling.
19. Explain software configuration management process?

PART - C

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

20. Describe water fall model ? What are the advantages and disadvantages?
21. Describe white box testing? Why testing is important with respect to software?

1 x 10 = 10 Marks

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC SD Degree Examination, November 2024

SDC3IT12 – Programming in Python

(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 is Python?
2. Name any two data types in Python.
3. What does the print() function do in Python?
4. What is a loop in Python?
5. What is a class in Python?
6. What is an object in Python?
7. What is function overloading in Python?
8. What is an HTML tag?
9. What is the purpose of the <p> tag in HTML?
10. How do you create a link in HTML?
11. What is a web server?
12. What is XAMPP used for?
13. What is the SELECT command in SQL used for?
14. How do you connect Python to a MySQL database?
15. What does the INSERT command do in SQL?

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

16. Describe any two features of Python.
17. List and explain two operators in Python.
18. What is inheritance in Python?
19. Name and explain any two HTML formatting tags.
20. Explain how to handle errors using try and except in Python.
21. What is server-side scripting?
22. How do you insert data into a MySQL table using Python?
23. What is the purpose of the <table> tag in HTML?

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

24. Write a Python program to print the numbers 1 to 5.
25. Explain instance variable, class variable and their use in python.
26. Briefly explain different HTML Form Controls.
27. What is the DELETE command in SQL used for? Give a simple example.

2 x 10 = 20 Marks

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BVOC SD Degree Examination, November 2024

SDC3IT13 – Computer Networking Concepts

(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 is framing?
2. What is hamming distance?
3. Define transmission media?
4. Define composite signals?
5. Define topology?
6. What is NAT ?
7. What is wireless LAN ?
8. What is Digital signature ?
9. Define cryptography.
10. What is VPN?
11. Explain PAN.
12. What is remote sensing ?
13. Define QoS?
14. Explain any two networking devices?
15. What are firewalls ?

PART B

Answer all questions.

Each question carries 5 marks

Ceiling-35 Marks

16. Explain digital multiplexing.
17. Explain flow control in data link layer?
18. Explain various switching techniques?
19. Explain ipv4 and ipv6.
20. Explain routing algorithms?
21. Write a brief note on computer networks?
22. Explain CRC and LRC with examples?
23. Explain CDMA and TDMA in detail.

PART C

Answer any two questions

Each question carries 10 marks

24. Explain OSI model?
25. Explain congestion control techniques?
26. Explain IEEE 802.11?
27. Explain cryptographic algorithms?

(2 x 10 = 20 Marks)