

1B2N21660

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester BVOC SD/BVOC AUTO Degree Examination, March 2021

GEC2MT06 – Numerical Skills

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

**PART – A**

Answer *all* questions.

Each question carries **Two** mark.

**Ceiling -25 Marks**

1. Define statistics.
2. Convert the given hexadecimal numbers into decimal numbers.  
a) B6C7                      b) 64AC
3. State idempotent law in Boolean algebra.
4. Simplify  $(CD+A) + BCD + AC$ .
5. What is the function of a decoder. Explain.
6. What is frequency distribution. Explain.
7. Differentiate between odd and even parity.
8. Define Karnaugh map.
9. What are universal gates?
10. What are multiplexers?
11. Define harmonic mean.
12. Perform 2's complement subtraction.  $00110 - 00010$ .
13. Differentiate between minterms and maxterms.
14. Draw the truth table of EX-NOR gate.
15. Define SR latch.

**PART - B**

Answer *all* questions.

Each question carries **Five** marks.

**Ceiling -35 Marks**

16. Explain the characteristics of statistics.
17. Discuss any two error detection methods.
18. State and prove DeMorgan's theorems.
19. Differentiate between EX-OR and EX-NOR gates.
20. Explain BCD to 7-segment decoder.
21. Minimize the expression  $F(A,B,C,D) = \pi M (3,7,6,9,11,12)$  in both SOP and POS form.
22. Write short notes on a) Mean      b) Median      c) Mode
23. Distinguish between half adder and full adder.

**PART - C**

Answer any *two* questions.

Each question carries **Ten** marks.

24. Discuss any two number systems along with rules for converting from one number system to another.
25. Using Boolean algebra technique, simplify the expression  $ABC + \overline{(AB)C} + AC$  as much as possible and realize the result using universal gates.
26. Draw the truth table and the logic diagram of the following gates.  
a) AND      b) OR      c) NAND      d) NOR
27. Explain different types of flip flops in detail.

**2 x 10 =**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester BVOC AUTO Degree Examination, March/April 2021

SDC2AE05 - Introduction to Automobile 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 the main advantages of the four-wheel drive vehicle?
2. Why do we provide gearbox in a vehicle?
3. Name major components of an automobile.
4. What do you meant by the term turbo lag?
5. What are the disadvantages of fuel injection?
6. Which carburetor is used in Maruti swift cars?
7. Explain about slip joint?
8. What is the need for a clutch in the automobile?
9. What is double de clutching?
10. Define camber, SAI and castor.
11. What is "fading' of brakes?
12. What is the objective of vehicle suspension?
13. List out the few advantages of CNG over diesel.
14. What is a hybrid vehicle?
15. List out fuel cell vehicles?

**PART – B**

Answer *all* questions.

Each question carries **Five** marks.

**Ceiling -35 Marks**

16. How do you classify automobiles?
17. How does a catalytic converter work?
18. What are the merits of fuel injection over carburetion in SI engines?
19. Explain about Torque tube drive.
20. What are the advantages of hydraulic brakes over mechanical brakes?
21. Explain Ackermann steering mechanism.
22. Briefly explain the layout of electric vehicles.
23. What are the different properties of Conventional fuels?

**PART - C**

Answer any *two* questions.

Each question carries **Ten** marks.

24. Explain the working of an electronic ignition system and its advantages over conventional systems?
25. Explain sliding mesh gear box and synchromesh gear box with necessary diagrams.
26. What do you understand from the terms: oversteer, understeer, cornering power and angle?
27. What is alternative fuel? Describe the various types of alternative fuel for automobile engines.

**2 x 10**

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester BVOC AUTO Degree Examination, March/April 2021

SDC2AE06 - Instrumentation for Automobile Engineers

(2020 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

**PART – A**

Answer *all* questions.

Each question carries **Two** mark.

**Ceiling -25 Marks**

1. Define measurement and factors needed for a meaningful measurement system.
2. Describe the methods of Measurements.
3. Define measuring instruments and classify them.
4. List out different types of Auto Sensors.
5. Explain CAN Network.
6. How is coolant temperature measured?
7. Define smoke from the vehicle.
8. How the smoke from the vehicle is measured?
9. Explain Spectrometry.
10. Note down the main classifications of transducers.
11. Define transducer, List out its functions.
12. What do you mean by Piezo-electric material ?
13. Name the common modulation technique employed for digital data transmission
14. Define equivalence ratio
15. Why should we detect Knock?

### PART – B

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

16. Explain the working of RTD and Thermistor
17. Write a note on measurement system.
18. Draw and explain Analog-to-Digital Conversion.
19. Explain Multiplexing.
20. Describe how dust and moisture are measured?
21. Describe thermistors and RTD
22. Describe and classify filters.
23. Explain the working principle of fuel metering sensor

### PART - C

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

24. Explain the need of measurement for automobile engineers and also explain methods of measurement.
25. Explain the working of fuel quantity and Coolant temperature sensor
26. Explain with diagrams important transducer actuating mechanisms
27. Write a note on oxygen sensors, coolant temperature & exhaust temperature.

2 x 10 = 2

## FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Second Semester BVOC AUTO/BVOC SD Degree Examination, March/April 2021

GEC2EG04 – Ways With Words : Literatures in English

(2020 Admission onwards)

Time: 2 hours

Max. Marks: 60

**Part A****Answer the following questions in two or three sentences.****2 marks each**

1. How does the poet use 'lark' as a symbol in the sonnet?
2. What are three examples of personification in the second stanza of "To Autumn" by John Keats?
3. What is city money? How is city money expected to help the poor people?
4. What are the exceptions of furniture that the speaker talks about?
5. What does the poet mean when he says 'good bye' in "Once upon a Time."
6. Where was Jerome's father when he died?
7. Why was Mary Maloney giggling by the end of the story?
8. What was Mum's reaction to dumping the old car?
9. How many types of bore are there?
10. What is Scientology?
11. Who are Colonial Dames?
12. What is catastrophism?

**(ceiling 20 marks)****Part B****Answer the following questions in a paragraph :****Each question carries 5 Marks**

13. Figures of speech in Shakespeare's "Sonnet 29"?
14. "Ode to Autumn" is one of the thematically rich odes of English literature. Discuss.
15. Write a paragraph on the generation conflict in "The Times They Are A-Changin"
16. What is the theme of a shocking accident?
17. Write a paragraph on Mum's shopping day. "It Used to be Green Once".
18. Justify the title of the poem "Once upon a time"
19. In 'Lamb to the Slaughter', was the murder premeditated or a 'crime of passion'?

**( ceiling 30 marks)**

Part C

Write an essay on any one of the following in about 200 words

20. Evaluate the poem Sonnet 29 as a sonnet
21. What picture of grandmother do you get from the poem "The House of My Childhood"?

(1x10 = 10m)