GURUDAS COLLEGE INTERNAL EXAMINATION,2020 COMPUTER SCIENCE (GENERAL) Part I Paper I THEORY

F.M=100

Answer Question No. 1 and any 4 from the rest

- 1. Answer any **four** Questions (4x5)
 - a. Define kernel. What is mutual Exclusion?
 - b. State main difference betweenmultiprocessor and real time processor?
 - c. Define the term DATA and Information. Define Application Software.
 - d. What is the difference between a virus and Worm.
 - e. Convert (FACE)₁₆=()₂=()₈State and explain De Morgan's Theorem.
 - f. Distinguish between combinational and sequential circuit.
 - g. Define instruction cycle? WhatisDMA?
 - h. What is direct addressing? How it is implemented.
- 2. a. Draw the process state diagram and explain its each state .
 - b. Distinguish between multitasking and multiprogramming.
 - c. What is CPU scheduling? why is it necessary?
- d. Explain the features of time sharing system

[5+5+5+5]

- 3. a. What is memory partition ? how does it facilate in multiprogramming? Discuss briefly.
 - b. What is virtual memory? State advantages and limitations of virtual memory.
 - c. What do you mean by logical and physical address space?
- d. Why is the shell is not part of a kernel?

[2+6+2+5+3+2]

- 4. a. Define multimedia. List out the building blocks of multimedia.
 - b. Briefly describe the main features that distinguish between micro computer, mini computer and main frame computer.
 - c. Write a short note on computer virus.
 - d. State differences between High level languages and low level languages.
 - e. Define linking.

[2+2+6+4+4+2]

- 5. a. Briefly State the characteristics of Primary device and secondary device.
 - b. Why is compiler required? Why is it important to standardize a language.
 - c. Write short notes on any two types of System software.
 - d. State the advantages and limitations of machine languages?

[5+2+3+5+5]

- 6. a. Give the truth table of 2*1 MUX. Give the 2's complement of i)10011, ii)11111b. Write down the characteristic expression of J-K Flip Flop. Show how a J-K Flip Flop converted into a D- Flip Flop.
 - c. How does an Encoder differ from a Decoder. Describe the working of a Full adder.
- a. Subtract the following number in 2's complement method.+62-(+29).What is Gray code?Complement the expression(A'B+CD')
 - b. Write the logical diagram, truth table, characteristic table of S-R Flip-Flop.
 - c. What is the function of multiplexer? Design an 8*1 MUX using fundamental logic gates.

[3+2+3+6+3+3]

[2+4+3+5+6]

- 8. a. Name four registers of digital computer and explain their functions.
 - b. Explain DMA transfer in a computer system with a diagram.
 - c. Explain the operating principal of direct mapping of cache memory.

[4+(5+3)+8]

- 9. a. Compare and contrast between I/O mapped I/O and memory mapped I/O.
 - b. What is addressing mode? Explain any five addressing modes with examples.
 - c. Explain basic bus structure of digital computer.

[3+2+10+5]

Send the Scanned answer scripts to the following mail id: csexam.cmsg3@gmail.com