WALCHAND COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)
Vishrambag, Sangli – 416415

First Year B.Tech. Computer Science and Engineering
ESE , ODD SEMESTER, AY 2023-24
Computer and Networking Essentials (7CS101)

ESE

PRN: _____

Day & Date: Friday, 22/12/2023 Time : 10.00 am to 12 noon

Max Marks: **50**

IMP: Verify that you have received question papers with correct course code, branch etc.

Instructions
a) All questions are compulsory.
b) Writing question number on answer book is compulsory otherwise answers may not be assessed.
c) Assume suitable data wherever necessary.
d) Figures to the right of question text indicate full marks.
e) Mobile phones, smart gadgets and programmable calculators are strictly prohibited.
f) Except PRN anything else writing on question paper is not allowed.
g) Exchange/Sharing of stationery, calculator etc. not allowed.

Text on the right of marks indicates course outcomes (Only for faculty use) Marks

Q1 Answer the following questions.

A) Differentiate Cache memory and virtual memory. **4** CO1

B) Apply the SJF scheduling algorithm on following data and calculate Average turnaround time and Average waiting Time. **3** CO1

PID	Arrival Time	Burst Time
P0	1	3
P1	2	6
P2	1	2
P3	3	7
P4	2	4
P5	5	5

C) What is deadlock? illustrate with suitable diagram and example. **3** CO1

Q2 **A)** What is RAID? Discuss its levels with a suitable diagram. **4** CO1

B) How can you calculate the performance of HDD? **3** CO2

Q3 **A** Why PCs are still based on CPUs and not entirely made of GPUs? **3** CO1

B how to generate the CRC bits that are appended to the original data. Given that the data stream is 10110011 and the generator polynomial is $x4+x+1$.

Verify Cyclic Redundancy Check for Error Control in the Data Link Layer at the sender side and receiver side.

Q4 Answer the following.

A) Draw and illustrate the OSI reference model.

B) Draw and illustrate guided media types and also give such applications where we can use these cables.

C) Differentiate LAN, MAN, WAN with appropriate diagrams.

Q5 A) How can individuals protect their computers from potential virus infections?

B) Give an example of the several sorts of antivirals you can use on your laptop or computer in the event that a virus infects it. what is antivirus?

C) Analyze common problems in computer hardware with examples.

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