

# BHAJ GURDAS INSTITUTE OF ENGINEERING & TECHNOLOGY

## Department of Computer Science and Engineering

### LESSON PLAN

**Subject Name: Computer Organization & Architecture**

**Subject Code: - BTES401-18**

**Year: -2023**

**Semester: - 4<sup>TH</sup>**

Lecture No.	Unit	Date/Week	Topic	Teaching Aids	References
1	1	10 Days	Introduction about CPU, Memory, Control Unit	Projector, chalk, green board, duster Text Book , Notes	Text Book, Notes
2			Instruction set architecture of a CPU, registers, instruction cycle, RTL interpretation of instructions		
3			Addressing Modes, instruction set		
4			Case study-Instruction set of 8085 microprocessor		
5			Signed number representation, fixed, character and floating point representations		
6			Computer arithmetic- integer addition and subtraction		
7			Ripple carry adder, carry look-ahead adder		
8			Multiplication-shift and add, Booth multiplier, carry save multiplier etc.		
9			Division restoring and non restoring techniques		
10			Floating point arithmetic		
11	2	12 Days	CPU control unit design :Hardwired		
12			Micro programs design approaches		
13			Case study of simple hypothetical CPU		
14			Memory System Design :Semiconductor memory technologies, memory organization		
15			Input/Output subsystems,		
16			I/O device interface, I/O transfers		
17			Program controlled, interrupt driven and DMA,		
18			Software interrupts and exceptions		
19			Programs and processes		
20			Role of interrupts in process state transitions		
21			I/O device interfaces-SCII, USB		
22			Privileged and non privileged instructions		

<b>23</b>	<b>3</b>	<b>10 Days</b>	Introduction about pipelining		
<b>24</b>			Basic concepts of pipelining		
<b>25</b>			Throughput and speedup		
<b>26</b>			Pipeline hazards		
<b>27</b>			Introduction to Parallel processors		
<b>28</b>			Working of parallel processors		
<b>29</b>			Types of parallel processors		
<b>30</b>			Concurrent access to memory		
<b>31</b>			Cache memory introduction		
<b>32</b>			Cache Coherency		
<b>33</b>			<b>4</b>		
<b>34</b>	Concept of Hierarchical memory organization				
<b>35</b>	Cache memory				
<b>36</b>	Cache size wedd block size				
<b>37</b>	Mapping functions				
<b>38</b>	Replacement algorithms				
<b>39</b>	Write Up policies				
<b>40</b>	Concept of Primary memory, uses and types				
<b>41</b>	Concept of Secondary memory, uses and types				
<b>42</b>	Introduction about SCII, USB				