

**PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)**

**BCA DEGREE EXAMINATION DECEMBER 2025  
(First Semester)**

**Branch – COMPUTER APPLICATIONS**

**COMPUTER ORGANISATION AND ARCHITECTURE**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The data is transferred over the RAMBUS as ____ a) Blocks                      b) Swing voltages c) Bits                          d) Packets	K1	CO1
	2	Subtraction in computers is carried out by ____ a) 1's complement      b) 2's complement c) 3's complement      d) 9's complement	K2	CO1
2	3	The addressing mode used in an instruction of the form ADD XY, is _____. a) Absolute                  b) Indirect c) Index                      d) direct	K1	CO2
	4	SP stands for _____. a) Storage Pointer          b) Seek Pointer c) Stack Pointer            d) Synchronous Pointer.	K2	CO1
3	5	What does a computer bus line consists of? a) Set of parallel lines      b) Accumulators c) Registers                  d) Assembler	K1	CO2
	6	_____ bus structure is usually used to connect I/O devices. a) Star                          b) Multiple c) Single                      d) Ram	K2	CO1
4	7	_____ is used to implement virtual memory organization. a) Page table                  b) Frame table c) MMU                      d) Compiler	K1	CO1
	8	Which of the following is a main memory? a) Secondary memory      b) Auxiliary memory c) Cache memory            d) Virtual memory	K2	CO2
5	9	The computer system is controlled by which component? a) CPU      b) RAM      c) ROM      d) CPU and RAM	K1	CO2
	10	The cost of a parallel processing is primarily determined by : a) time complexity          b) switching complexity c) circuit complexity        d) none of the above	K2	CO1

Cont...

**SECTION - B (35 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain two classes of storage with example.	K2	CO1
		(OR)		
	11.b.	What is the problem with floating-point? Give example.		
2	12.a.	Analyze one address instruction format (A+B)*(C+D).	K3	CO2
		(OR)		
	12.b.	Examine Stack Organization with example.		
3	13.a.	How interrupt are used in I/O transfer?	K3	CO3
		(OR)		
	13.b.	Compare Single bus and multiple bus organization.		
4	14.a.	Analyze how cache memory is measured.	K4	CO4
		(OR)		
	14.b.	What is a memory management concept and memory management requirement?		
5	15.a.	List and explain the advantage of parallel processing.	K4	CO5
		(OR)		
	15.b.	Discuss about multicore system.		

**SECTION -C (30 Marks)**

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain about connection between the processor and the memory with neat sketch.	K4	CO1
2	17	Analyze different types of addressing modes with example.	K4	CO2
3	18	Elaborate the steps for DMA data transfer.	K4	CO3
4	19	Illustrate virtual memory with neat sketch.	K4	CO4
5	20	Discuss GPU architecture fundamentals.	K4	CO5

Z-Z-Z

END