PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2025
(Fifth Semester)

Branch – NETWORKING AND MOBILE APPLICATION

EMBEDDED SYSTEMS

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	How many bit processors were used in first generation embedded systems? a. 8 b. 16 c. 32 d. 64	K1	CO1
	2	Illustrate, which of these is piezo-electric device for generating audio indication? a. Bell b. Buzzer c. LED d. ADC	K2	CO1
2	3	Which of these is not a RAM? a. DRAM b. NVRAM c. VRAM d. SRAM	K1	CO1
	4	Which of these is a transducer device that converts energy from one form to another for any measurement or control purpose? a. Actuator b. Diode c. Detector d. Sensor	K2	CO1
3	5	In automotive systems, where are the High-speed Electronic Control Units deployed? a. Door lock b. Wiper control c. Head lamp control d. Antilock brake system	K1	CO2
	6	Which of the following is a distributed embedded system? a. Flight control systems b. Antilock brake system c. SCADA system d. Smart watch	K2	CO2
4	7	How wide is the address bus of 8051 Microcontroller? a. 8 bit b. 16 bit c. 8 byte d. 16 byte	K1	CO3
	8	In indirect addressing which symbol is used before the indirect addressing register? a. @ b. $ c. # d. &	K2	CO3
5	9	The term 'model' in EDLC represents ___. a. various phases involved in the life cycle. b. various analysis of the product c. various designs of the product d. various architecture of the product	K1	CO4
	10	In Embedded terminology the system side applications are referred as ___. a. Embedded Software b. Embedded Firmware c. Embedded Malware d. Embedded Liveware	K2	CO4

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.	Compare embedded system vs. general computing systems.	K4	CO1
		(OR)		
	11.b.	List the major application areas of embedded systems with emphasis on wearable technology.		
2	12.a.	Explain about ROM and RAM.	K2	CO1
		(OR)		
	12.b.	Illustrate the use of any 4 sensor/actuators.		
3	13.a.	List out the characteristics of an embedded system.	K4	CO2
		(OR)		
	13.b.	Analyze the role of embedded systems in application specific domain.		
4	14.a.	Identify the factors to be considered while selecting a controller.	K3	CO3
		(OR)		
	14.b.	Identify the use of Data Flow Graph, State Machine Model, Object Oriented Model in embedded systems design.		
5	15.a.	Compare the waterfall and iterative model in the development of an embedded product.	K3	CO4
		(OR)		
	15.b.	Classify the processor trends in embedded systems.		

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	Classify embedded systems with suitable examples.	K4	CO1
2	17	Survey the core components of an embedded system.	K4	CO1
3	18	Categorize the operational and non-operational quality attributes of embedded systems.	K4	CO2
4	19	List out the types of instruction set of 8051 Microcontrollers.	K4	CO3
5	20	List out the different phases of EDLC.	K4	CO4

Z-Z-Z   END