

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2023
(Fourth Semester)

Branch – NETWORKING AND MOBILE APPLICATIONS

EMBEDDED SYSTEM

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Embedded system are _____
(i) General-purpose (ii) Special purpose
(iii) Domain purpose (iv) All of the above
- 2 An embedded system has _____ components.
(i) 2 (ii) 3
(iii) 4 (iv) 1
- 3 Which is/are the operational quality attribute?
(i) Response (ii) Throughput
(iii) Reliability (iv) All of the above
- 4 Which design considers both the hardware and software during the embedded design?
(i) Memory Design (ii) Software/Hardware codesign
(iii) Peripheral design (iv) Platform-based design
- 5 Processors used in many microcontroller products need to be _____
(i) high power (ii) low power
(iii) low interrupt response (iv) low code density

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Define an Embedded System. Compare Embedded and General Computing System.
OR
b Analyze the classification and applications of Embedded Systems.
- 7 a Describe about Programmable Logic Devices and Embedded firmware.
OR
b Narrate PCB and Passive components.
- 8 a Summarise the Quality of Attributes of an Embedded Systems.
OR
b Prepare your own washing machine-application using specific embedded system.

Cont...

- 9 a Bring out different addressing modes supported by 8051.
OR
b Sketch the block diagram of 8051- 8 bit microcontrollers architecture and its memory organization.
- 10 a State different phase of EDLC.
OR
b Explain Operating System in an Embedded System.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Survey wearable devices.
OR
b Summarise the History of Embedded Systems.
- 12 a Analyze the innovative bonding of lifestyle with embedded technologies.
OR
b Differentiate domain specific processors and application specific ICs.
- 13 a Examine an application specific embedded system with an example.
OR
b Elucidate Automotive Embedded system with an example.
- 14 Infer the following related to embedded system design Technology
a) Computational Model of Embedded system
b) Hardware /Software Co-Design
OR
b Discuss about Hardware and Software Tradeoffs with integrating hardware and firmware.
- 15 a Highlight the Approaches of EDLC.
OR
b Justify current trends in embedded industry.

Z-Z-Z

END