Vivekanand College, Kolhapur (Empowered Autonomous)
Department of Electronics
Notice

Date: 02.03.2024

All the students of B.Sc. III Electronics are hereby informed that their internal examination for Semester VI will be conducted in offline mode as per attached schedule.

Paper	Section title	Marks	Date	Time
DSE 1005F1	Industrial Instrumentation	15	21-03-2024	11:30am-12.30pm
DSE 1005F2	Advanced Microcontroller	15	21-03-2024	02:00pm-3.00pm
DSE 1005F3	Power Electronics	15	22-03-2024	11:30am-12.30pm
DSE 1005F4	Internet of Things (IoT)	15	22-03-2024	02:00pm-3.00pm

VIVEKANAND COLLEGE KOLHAPUR (Empowered Autonomous) ESTD JUNE 1964

(Dr. C. B. Patil)
HEAD
DEPARTMENT OF ELECTRONICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

B.Sc. Part-III (Electronics) (Sem-VI)
Internal Examination March-2024
Course Code: DSE – 1005F1
Industrial Instrumentation

Date: 21/03/2024 Marks: 15 Marks

Q.1) Select the correct alternative (one mark each) **(03)**

i) In single channel DAS_____ is not required.

a) Transducer b) Multiplexer c) ADC d) DAC

ii) _____ filter has flat pass band as well as stop band.

a) Butterworth b) Chebyeshev c) Bessel d) none of these

iii) _____ converter is called a Trans-conductance Amplifier.

a) V to V b) I to V c) I to I d) V to I

Q.3) Attempt any three (4 marks each) **(12)**

1) What is Data Logger? List its Characteristics.
2) List advantages of Active Filter over passive filter.
3) Explain I to V convertor using Op-Amp.
4) Explain Sample-Hold circuit.

Shree Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Class: B.Sc.-III, Semester-VI, March-2024

Course code: DSE1005F2 **Subject:** Advanced Microcontroller

Time: 02.00 pm to 03:00 pm Marks: 15 **Date:**-21/03/2024

[3M]

Q.1.Select the Correct alternative

1. Embedded system is combination of _____
   a) hardware and software b) software
   c) hardware d) none of these
2. The ATMega 8 is having_____ general purpose 8-bit
   a) 12 b) 32
   c) 40 d) 22
3. Microwave oven is example of_____
   a) open system b) VLSI system
   c) both a) and b) d) embedded system

[12 M]

Q.2 .Attempt any Three (Four mark each)

1. Give the applications of embedded systems
2. Give the hardware architecture of embedded system
3. Give features of AVR AT mega 8 features
4. Explain the pin diagram of ATMega 8.

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

B.Sc. Part- III (Electronics) (Sem-VI)
Internal Examination March-2024
Course Code: DSE - 1005 F3
Power Electronics

Date: 22/03/2024
Marks: 15 Marks

Q.1) Select most correct alternatives for the following (one mark each) **[3 Marks]**

1. ---------- of the following is NOT a type of thyristor.
   A) TRIAC B) DIAC
   C) IGBT D) SCR

2. In the forward blocking mode of a silicon controlled rectifier, the SCR is --------
   A) in on state B) in natural state
   C) forward biased state D) in off state

3. When an SCR is in the "ON" state, it behaves like-------
   A) An open circuit B) A closed circuit
   C) A resistor D) A capacitor

Q.2) Attempt any Three (Four marks each) **[12 Marks]**

1. State the different method use to turn on the SCR.Which method widely used to turn on the SCR and explain it shortly?
2. Explain the operation and V-I characteristics of DIAC.
3. Explain the dv/dt concept in SCR.
4. Describe two transistor model of thyristor with neat diagram. Draw its equivalent circuit.
5. Draw the symbol with name of terminal of following devices
   a) DIAC b) Power MOSFET c) SCR d) TRIAC

Vivekanand College; Kolhapur (Empowered Autonomous)

B.Sc. Part-III (Electronics) (Sem-VI)

Internal Examination March-2024

Course Code: DSE – 1005 F3

Internet of Things (IoT)

Date: 22/03/2024 Marks: 15 Marks

Q.1) Select correct alternative (One mark each) **(03)**

i) _____ of IoT refer to IoT devices and IoT protocol.

a) Wires b) Physical design c) Resistance d) none of these

ii) _____ is a numerical label assigned to each device connected to a computer network.

a) IP address b) MAC address c) http d) none of these

iii) User diagram protocol (UDP) is _____ protocol

a) Transfer b) network c) application d) none of these

Q.3) Attempt any three (4 marks each) **(12)**

i. What is mean by IoT?

ii. Explain the architecture of IoT.

iii. Explain the different link layer protocols.

iv. Describe IoT dives with block diagram.

v. Explain construction and working of photo diode.