

2024

PHYSICS — GENERAL

Paper : SEC-B-1 and SEC-B-2

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

SEC-B-1

(Arduino)

Full Marks : 20

Answer **any ten** questions.

2×10

1. What does the 'pinMode()' function do in an Arduino sketch?
 - (a) Reads the state of a pin
 - ☒ (b) Sets a pin to input or output mode
 - (c) Writes a value to a pin
 - (d) Stops the execution of the program.
2. Which of the following is NOT an analog pin on the Arduino Uno?
 - (a) A0
 - (b) A3
 - (c) A5
 - ☒ (d) D13.
3. How many digital pins are available on the Arduino Uno?
 - (a) 12
 - ☒ (b) 14
 - (c) 16
 - (d) 20.
4. Which function is used to set the baud rate for serial communication in Arduino?
 - (a) 'Serial.write()'
 - ☒ (b) 'Serial.begin()'
 - (c) 'Serial.print()'
 - (d) 'Serial.read()'.
5. What is the clock frequency of the microcontroller chip used in the Arduino UNO?
 - ☒ (a) 16MHz
 - (b) 32MHz
 - (c) 80MHz
 - (d) 2MHz.
6. A program written with the IDE for Arduino is called _____.
 - (a) IDE source
 - ☒ (b) Sketch
 - (c) Cryptography
 - (d) Source code.

Please Turn Over

7. What is the change of voltage in LM35 temperature sensor due to a change of 1°C ?
(a) 5mv
(b) 10mv
(c) 15mv
(d) 20mv.
8. What is the purpose of the 'analogRead()' function in Arduino?
(a) To read a digital value from a pin
(b) To write a digital value to a pin
(c) To read an analog value from a pin
(d) To write an analog value to a pin.
9. The function delay (1000) counts
(a) 100 seconds
(b) 1000 seconds
(c) 1 second
(d) 1000 milliseconds.
10. The built-in LED on the Arduino UNO board is connected to
(a) Digital pin 13
(b) Analog pin A1
(c) Digital pin 5
(d) Analog pin A0.
11. How many PWM pins are available on the Arduino UNO?
(a) 4
(b) 6
(c) 8
(d) 10.
12. How many voltage levels are present when a pin uses digitalWrite()?
(a) 5
(b) 2
(c) 3
(d) 4.