

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

Time : 1 Hour

Answer **any ten** questions each carrying 2 marks.

Choose the correct option.

1. What is the maximum voltage an Arduino UNO board can handle?
 - (a) 5 Volt
 - (b) 9 Volt
 - (c) 12 Volt
 - (d) 24 Volt.
2. What is the sensitivity of LM35 temperature sensor?
 - (a) 10 mV/°C
 - (b) 20 mV/°C
 - (c) 40 mV/°C
 - (d) 30 mV/°C.
3. Which microprocessor is used in Arduino UNO board?
 - (a) ATmega2560
 - (b) ATmega328P
 - (c) ATmega32114
 - (d) AT91SAM3x8E.
4. Which of the following is the correct syntax for declaring a variable in an Arduino sketch?
 - (a) variable_name = value;
 - (b) variable_name : value;
 - (c) value : variable_name;
 - (d) value = variable_name.;
5. LDR stands for –
 - (a) Light Driven Receptor
 - (b) Light Driven Resistor
 - (c) Light Dependent Resistor
 - (d) Long Distance Relationship.

Please Turn Over

6. Baud rate means
- (a) the rate at which the data is communicated
 - (b) the rate of bits
 - (c) the rate of baud
 - (d) the rate of signal communicating through the channel.
7. In Arduino IDE, IDE stands for
- (a) Integrated Digital Environment
 - (b) Integrated Development Environment
 - (c) Instruction Development Environment
 - (d) Interactive Development Environment.
8. The pinMode() function is used to
- (a) change the input or output mode of the pin
 - (b) on or off the pin
 - (c) convert analog to digital
 - (d) PWM mode.
9. The Basic function of ADC is to
- (a) convert Analog to Digital Signal
 - (b) convert Digital to Analog Signal
 - (c) connect Digital pin to Analog
 - (d) connect Analog pin to Digital.
10. What will be the output of the following Arduino code?
- ```
void main ()
{
 int a = 0;
 double d = 10.21;
 printf(“%lu”, sizeof(a+d));
}
void loop () { }
```
- (a) 10.21
  - (b) null
  - (c) 8
  - (d) 23.

11. What will be the output of the following code?

```
int integer = 10;
```

```
string str = "10";
```

```
integer+ = 1;
```

```
str+ = 1;
```

(a) 11, 11

(b) 11, 110

(c) 11, 10

(d) 13, 101.

12. To be safe, the current going through an Arduino's I/O pin should be limited to

(a) 20 A

(b) 20 mA

(c) 2 mA

(d) 200  $\mu$ A.