



## PES UNIVERSITY

### UNIT – 1 Question Bank

1. Write a program to print FizzBuzz. Input an integer. If it is
  - Divisible by 3 -print FIZZ
  - Divisible by 5 -print BUZZ
  - Divisible by both 3 and 5 -FIZZBUZZ
  - Else print the number itself
2. Write a python program that takes the name and age of the user as input and displays a message whether the user is eligible to apply for a driving license or not. (the eligible age is 18 years).
3. Write a python program to check if the year entered by the user is a leap year or not.  
Conditions for a Leap Year: Here are the two conditions that any year must satisfy to be called a leap year
  1. The year must be perfectly divisible by 400.
  2. The number must be divisible by 4 but not by 100.
4. Write a python program using control structures to print the following pattern:

```
1
1 3
1 3 5
1 3 5 7
```

5. What is the difference between implicit type conversion and explicit type conversion?
6. What is the output for the following code:

```
a = True
b = False
c = False
```

```
if not a or b:
    print (1)
elif not a or not b and c:
    print (2)
elif not a or b or not b and a:
    print (3)
else:
```

*Implicit type conversion happens by python itself*  
*Explicit type func must be done by the use*

```
print (4)
```

7. What is the output of following code?

```
a = True
b = False
c = False
```

```
if a or b and c:
    print ("HELLOWORLD")
else:
    print ("helloworld")
```

8. What will be the output of following python code?

```
for i in range(0,10,2):
    if(i % 5==0):
        print(i)
```

Three ways:

1. Decimal

2. Octal

3. Hexadecimal

9. How many ways are there in Python to represent an integer literal?

10. Which of the following identifier names are invalid and why?

- a) Serial\_no.
- b) 1st\_room
- c) Hundred\$
- d) Total marks
- e) Total-marks
- f) True

Two ways

1. Executer or IDLE mode

2. File Mode

11. In how many different ways can you work in python?

12. What are the advantages and limitations in python?

13. Write a program to implement a simple calculator for two input integers. Offer choices through a menu.

14. Write a program to find the sum of the series:  $s = 1 + x + x^2 + x^3 + \dots + x^n$

15. Numbers in the form  $2^n - 1$  are called Mersenne Numbers, e.g:

$$2^1 - 1 = 1, 2^2 - 1 = 3, 2^3 - 1 = 7$$

Write a python program that displays first ten Mersenne numbers.

16. How to convert a number from base 10 to base 2?

17. What is Bruteforce approach?

18. Mention the rules or Guidelines for Creating Identifiers in Python. *unique, no special char, no space*

19. Define literal. What are the different types of literals with example *Literals are data stored*

20. What is an Operating system? *String, Integer, Float, Boolean* *under different variables*

21. Write a Python program to print the following pattern using control structures

```
A
B C D
E F G H I
J K L M N O P
Q R S T U V W X Y
```

22. What value for x makes each of the following Boolean expressions true?
- (a) x or False
  - (b) x and True
  - (c) not (x or False)
  - (d) not (x and True)
23. Write a program that sums a series of (positive) integers entered by the user, excluding all numbers that are greater than 100.
24. Write a Python program that prompts the user to enter an upper or lower case letter and displays the corresponding ASCII value.
25. Write a Python program to solve a Quadratic Equation.
26. Write a Python program that allows the user to enter a four-digit binary number and displays its value in base 10. Each binary digit should be entered one per line, starting with the leftmost digit , as shown below.
- ```
Enter leftmost 1
Enter the next 0
Enter the next 0
Enter the next 1
The value is 9
```
27. Write a simple Python program that displays the following powers of 2, one per line: 2<sup>1</sup> , 2<sup>2</sup> , 2<sup>3</sup> , 2<sup>4</sup> , 2<sup>5</sup> ,2<sup>6</sup>
28. What is escape sequence? Explain different types of it with example.
29. Convert the following values in binary representation to base 10. Show all steps.
- (a) 1010 (b) 1011 (c) 10000 (d) 1111
30. What is short circuit evaluation in python?
31. Give an example for non volatile memory. *Text*
32. Write a Python program to print Fibonacci series' first 20 elements. Some initial elements of a Fibonacci series are:
- ```
0 1 1 2 3 5 8.....
```
33. What are the different types of operators in python? *arithmetic  
boolean  
logical  
assignment*

### **True and False Questions:**

34. True or False? In the Man, Cabbage, Goat and Wolf problem example, the state [W, E, W, E] indicates that the cabbage and wolf are on the east side of the river, the man and goat are on the west side. *True*
35. True or False? The brute force approach is one of the most widely used algorithmic programming solutions because it is such an efficient problem-solving method. *False*
36. True or False? A flash (USB) drive is an example of a device containing nonvolatile memory. *True*
37. True or False? Arithmetic overflow can result from the division of two floating-point values.
38. True or False? Charles Babbage is considered the first computer programmer. *False*
39. True or False? The Boolean expression 'Abe' < 'Apple' evaluates to true. *True*

40. True or False?  $1 \leq \text{num} \leq 10$  is not a valid Boolean expression in most programming languages, but is allowed in Python. *True*
41. True or False? In Python, indentation is not significant. It is simply a strict convention used for readability and considered good programming etiquette. *False*
42. True or False? All if statements must include an else header. *False*
43. True or False? The elif header provides a convenient means of using a single if statement for multiway selection that can always be implemented instead by use of nested if statements. *True*
44. True or False? The id function produces a unique number identifying a specific value (object) in memory. *True*
45. True or False? Program lines may be joined by use of the backslash character. *True*
46. True or False? The following is a valid assignment statement for variable n.  
 $n = n + 1$ . *True*
47. True or False? All input is returned by the input function as a string type. *True*
48. True or False? Buses provide communication between hardware components. *True*
49. True or False? Compiled programs generally execute faster than interpreted programs. *True*
50. True or False? The while loop is an exit controlled loop. *False*
51. True or False? The for loop is an entry controlled loop. *True*
52. True or False? Is Operating System referred as System Software.

**Fill in the blanks:**

53. 10011 is a binary number. The number that it translates to in the decimal system that we are used to is\_\_\_\_\_.
54. The two major programming paradigms in use today are\_\_\_\_\_programming and \_\_\_\_\_programming.
55. A byte usually consists of\_\_\_\_\_bits.
56. Floating-point values have both a\_\_\_\_\_and a\_\_\_\_\_.
57. An identifier that already has a predefined meaning in Python, and therefore cannot be used as a variable, is known as a\_\_\_\_\_.
58. The\_\_\_\_\_operator is used to assign a value to a variable.
59. An\_\_\_\_\_ is a finite number of clearly described, unambiguous, “doable” steps that can be systematically followed to produce a desired result for given input in a finite amount of time. *Algorithm*
60. The floor division of two integers yields a result of type.
61. To check if two objects reference the same memory address,\_\_\_\_\_operator is used.
62. In Python, a variable is assigned a value of one type, and then later assigned a value of a different type. This will yield\_\_\_\_\_.
63. To print a line a text without ending it with a newline,\_\_\_\_\_argument is used with print().
64. Python’s floating point numbers have a precision of\_\_\_\_\_digits.
65. The\_\_\_\_\_operator tests if a given value is contained in a sequence or not.