

## Programming Assignment-20

### Question 1:

Ans.

```
def filter_list(lst):  
    return [x for x in lst if isinstance(x, int)]
```

#### # Examples

```
print(filter_list([1, 2, 3, "a", "b", 4])) # → [1, 2, 3, 4]  
print(filter_list(["A", 0, "Edabit", 1729, "Python", "1729"])) # → [0, 1729]  
print(filter_list(["Nothing", "here"])) # → []
```

### Question 2:

Ans.

```
def add_indexes(lst):  
    return [num + i for i, num in enumerate(lst)]
```

#### # Examples

```
print(add_indexes([0, 0, 0, 0, 0])) # → [0, 1, 2, 3, 4]  
print(add_indexes([1, 2, 3, 4, 5])) # → [1, 3, 5, 7, 9]  
print(add_indexes([5, 4, 3, 2, 1])) # → [5, 5, 5, 5, 5]
```

### Question 3:

Ans.

```
import math  
  
def cone_volume(height, radius):  
    volume = (1/3) * math.pi * (radius ** 2) * height  
    return round(volume, 2)
```

### # Examples

```
print(cone_volume(3, 2)) # → 12.57
```

```
print(cone_volume(15, 6)) # → 565.49
```

```
print(cone_volume(18, 0)) # → 0
```

### Question 4:

**Ans.**

```
def triangle(n):  
    return n * (n + 1) // 2
```

### # Examples

```
print(triangle(1)) # → 1
```

```
print(triangle(6)) # → 21
```

```
print(triangle(215)) # → 23220
```

### Question 5:

**Ans.**

```
def missing_num(lst):  
    return sum(range(1, 11)) - sum(lst)
```

### # Examples

```
print(missing_num([1, 2, 3, 4, 6, 7, 8, 9, 10])) # → 5
```

```
print(missing_num([7, 2, 3, 6, 5, 9, 1, 4, 8])) # → 10
```

```
print(missing_num([10, 5, 1, 2, 4, 6, 8, 3, 9])) # → 7
```