📘 Python Revision Notes (Chapters 1–5)

✅ Chapter 1: Basics

1. **Print today's date** → use import datetime → datetime.date.today().
2. **Comments** → # single-line and ''' multi-line '''.
3. **Product & Quotient** → * for product, / for quotient.
4. **Odd/Even check** → if n % 2 == 0.
5. **Typecasting** → "123.45" → float() → int().

✅ Chapter 2: Strings

6. **Full name to initials** → split string + take first letters.
7. **Count vowels** → loop through sentence and check in "aeiouAEIOU".
8. **Replace text** → s.replace("Python", "Java").
9. **Palindrome check** → compare string with [::-1].
10. **Escape sequences** → \n (newline), \t (tab).

✅ Chapter 3: Lists & Tuples

11. **Take 5 integers in list** → find max() & min().
12. **Reverse list manually** → slicing [::-1] or loop.
13. **Tuple of 10 numbers** → print even ones using if n % 2 == 0.
14. **Merge two lists & remove duplicates** → set(list1 + list2).
15. **Count occurrences in tuple** → tuple.count(value).

✅ Chapter 4: Dictionaries

16. **Student marks dictionary** → max(a, key=a.get) for highest, min() for lowest.
17. **Update dictionary** → dict["new_key"] = value.
18. **Fruit colors** → dictionary lookup with .get(key).
19. **Set operations** → .union(), .intersection(), .difference().
20. **Remove duplicates from list** → set(list).

✅ Chapter 5: Sets & More

21. **Friends & languages** → keys must be unique, values can repeat.
22. **Check key exists** → "Python" in dict.
23. **Empty set + add 5 numbers** → set().add(n) inside loop.
24. **Set with int & str** → allowed ({25, "25"}).
25. **Store only unique inputs** → set removes duplicates automatically.
26. **Print dictionary values** → .values().
27. **Check if value exists** → "x" in dict.values().
28. **Remove duplicates but keep order** → loop and append only if not present.
29. **Sort dictionary by marks** → use sorted(dict.items(), key=lambda x: x[1]).
30. **Summary difference**

- **List** → ordered, mutable, allows duplicates
- **Tuple** → ordered, immutable, allows duplicates
- **Set** → unordered, unique values only
- **Dictionary** → key-value pairs, keys unique