Tanmay's Full-Stack + Aptitude Mock Test with Answers and Full Explanations

Section 1: Python + Django (5 Questions)

𝚱Q1. What will this print?

```
a = [1, 2, 3]
b = a
b.append(4)
print(a)
```

Answer: [1, 2, 3, 4]

Explanation: Both a and b point to the same list in memory. So if you modify b, a is also changed.

Q2. Fix this Django view:

```
def home(request):
    return "Hello"
```

Answer:

```
from django.http import HttpResponse

def home(request):
    return HttpResponse("Hello")
```

Explanation: Django views must return an HttpResponse object, not plain strings.

𝑉Q3. Which model field is best for storing large text in Django?

- a) CharField
- b) IntegerField
- · c) TextField
- d) SlugField

Answer: c) TextField

 $\textbf{Explanation:} \left[\textbf{CharField} \right] \text{is limited by} \left[\textbf{max_length} \right]. \textbf{Use} \left[\textbf{TextField} \right] \text{for paragraphs or descriptions.}$

𝚱Q4. What is the output?

```
def greet(name="Guest"):
    return f"Hello, {name}"

print(greet())
```

Answer: Hello, Guest

Explanation: The function has a default value. If you don't pass a name, it uses "Guest".

Q5. What is the purpose of manage.py in Django?

Answer: It's a command-line tool that helps manage your Django project (runserver, migrations, etc).

Section 2: JavaScript + React (5 Questions)

∕ Q6. What does this log?

```
console.log(typeof null);
```

Answer: "object"

Explanation: It's a known bug in JavaScript's history. typeof null incorrectly returns "object"

𝔗 Q7. What are props in React?

Answer: Props (short for "properties") are used to **pass data** from a parent component to a child component.

Example:

```
function Greet(props) {
  return <h1>Hello, {props.name}</h1>;
}
```

```
<Greet name="Tanmay" />
```

⊗Q8. Fix this code to display "Good morning Tanmay"

```
function Hello(props) {
  return <h1>Hello {props.name}</h1>;
}
```

Answer:

```
function Hello(props) {
  return <h1>Good morning {props.name}</h1>;
}
```

Explanation: Just change the hardcoded string. Props is still used to get dynamic value.

𝚱 Q9. What will this return?

```
let a = 5;
let b = "5";
console.log(a == b);
console.log(a === b);
```

Answer:

```
true
false
```

Explanation: == checks value only. === checks value and type.

⊗Q10. What is useEffect in React?

Answer: It's a Hook that lets you run **side effects** (e.g., API calls) in functional components.

```
useEffect(() => {
   // runs on component mount
}, []);
```

Section 3: SQL (5 Questions)

𝑉 Q11. Write query to find second highest salary

SELECT DISTINCT salary FROM employees ORDER BY salary DESC LIMIT 1 OFFSET 1;

♦ Q12. What does DISTINCT do?

Answer: It removes duplicate rows from result.

Q13. What's the difference between WHERE and HAVING?

Answer:

- WHERE filters rows **before** grouping
- HAVING filters groups **after** using GROUP BY

⊗Q14. Count students above 20 age

```
SELECT COUNT(*) FROM students WHERE age > 20;
```

⊗Q15. Add condition to existing query:

```
SELECT name FROM students WHERE marks > 80;
```

Condition: Only from 'Delhi'

Answer:

```
SELECT name FROM students WHERE marks > 80 AND city = 'Delhi';
```

Section 4: Aptitude + Reasoning (5 Questions)

Q16. What is 25% of 240?

Answer: $0.25 \times 240 = 60$

ØQ17. Profit = ?, CP = ₹400, SP = ₹500

Answer:

- Profit = 500 400 = ₹100
- Profit% = (100 / 400) × 100 = 25%
- **Q18. Series: 2, 4, 8, 16, ?**

Answer: Multiply by 2 each time \rightarrow 32

♦ Q19. Ratio 3:5, total = 80

Answer:

- Total parts = 3+5 = 8
- One part = 80/8 = 10
- First = 30, Second = 50

\bigcirc Q20. Direction Q: Move North 3km → Right 4km → Which direction?

Answer: Right from North = **East**

Tips:

- ullet Don't memorize code blindly understand the logic
- In coding tests: read test case + observe edge cases
- In aptitude: learn formulas, but also shortcuts
- In React: use [props] for passing data, [useState] for managing data, [useEffect] for side tasks
- In Django: know how models/views/templates connect

Let me know if you want a practice version (without answers), or I should add more advanced examples next.