Innovators Entrance Test (IET)

Name of the Student: _____ **Roll No. :_____**

Branch: _____ **Year & Sem: _____**

Mobile No:_____

Date: 9ᵗʰ August 2024 **Duration: 90 mins**

Python fundamentals

1. What is the purpose of the self parameter in class methods?
   Answer:

2. What is the difference between == and is operators?
   Answer:

3. How do you create a virtual environment in Python?
   Answer:

4. What is the output of the following code?
```
print(bool(0), bool(3.14), bool(''))
```
   Answer:

5. How do you read a file in Python?
   Answer:

6. What is a list comprehension?
   Answer:

7. What is the purpose of the pass statement?
   Answer:

8. What is the output of the following code?
```
print({1, 2, 3} & {2, 3, 4})
```
   Answer:

9. How do you install a package using pip?
   Answer:

10. What is the difference between range() and xrange() in Python 2?
    Answer:

11. What is the output of the following code?
    ```
    print([i for i in range(5) if i % 2 == 0])
    ```
    Answer:

12. How do you create a class in Python?
    Answer:

13. What is the purpose of the __init__ method?
    Answer:

14. What is the output of the following code?
    ```
    print("Python".lower())
    ```
    Answer:

15. How do you create a tuple in Python?
    Answer:

16. What is the output of the following code?
    ```
    print(2 ** 3)
    ```
    Answer:

17. How do you check the data type of a variable?
    Answer:

18. What is the output of the following code?
    ```
    print("Hello, {0}!".format("World"))
    ```
    Answer:

19. How do you remove an element from a list?
    Answer:

20. What is the output of the following code?
    ```
    print("Hello, World!".replace("World", "Python"))
    ```
    Answer:

21. How do you create a generator in Python?
    Answer:

22. What is the output of the following code?
    ```
    print(type([]) is list)
    ```
    Answer:

23. How do you create a dictionary in Python?
    Answer:

24. What is the difference between append() and extend() methods in lists?
    Answer:

25. What does the len() function do?
   Answer:

26. How do you handle exceptions in Python?
   Answer:

27. What is a lambda function?
   Answer:

28. What is the output of the following code?
   ```
   print("Hello, World!"[::-1])
   ```
   Answer:

29. How do you create a set in Python?
   Answer:

Logical reasoning & problem-solving

1. Scenario: A bat and a ball cost $1.10 in total. The bat costs $1 more than the ball. How much does the ball cost?
   - A) $0.05   - B) $0.10   - C) $0.15   - D) $0.20
   Answer:
2. Scenario: You are given 12 balls, one of which is heavier or lighter than the others. How can you determine the odd ball in just three weighings?
   - A) Weigh 6 balls against 6 balls.
   - B) Weigh 4 balls against 4 balls.
   - C) Weigh 3 balls against 3 balls.
   - D) Weigh 2 balls against 2 balls.
   Answer:
3. Scenario: You are in a room with three switches. One of them controls a light bulb in another room. You can only enter the room with the light bulb once. How do you determine which switch controls the bulb?
   - A) Turn on one switch, wait 5 minutes, turn it off, turn on the second switch, and enter the room.
   - B) Turn on all switches and enter the room.
   - C) Turn on one switch and immediately enter the room.
   - D) Turn on two switches and enter the room.
   Answer:
4. Scenario: A farmer has 17 sheep and all but 9 die. How many are left?
   - A) 8   - B) 9   - C) 17   - D) 0
   Answer:
5. Scenario: You have a 3-liter jug and a 5-liter jug. How can you measure exactly 4 liters of water?
   - A) Fill the 5-liter jug and pour it into the 3-liter jug twice.
   - B) Fill the 3-liter jug and pour it into the 5-liter jug twice.
   - C) Fill the 5-liter jug, pour it into the 3-liter jug, then fill the 5-liter jug again and pour it into the 3-liter jug until it is full.
   - D) Fill the 3-liter jug, pour it into the 5-liter jug, then fill the 3-liter jug again and pour it into the 5-liter jug until it is full.
   Answer:

6. Scenario: A man is looking at a picture of someone. His friend asks, "Who is it you are looking at?" The man replies, "Brothers and sisters, I have none. But that man's father is my father's son." Who is in the picture?
  - A) His son   - B) His father   - C) Himself   - D) His uncle
  Answer:

7. Scenario: You are in a race and you overtake the person in second place. What position are you in now?
  - A) First   - B) Second   - C) Third   - D) Fourth
  Answer:

8. Scenario: If you have a bowl with six apples and you take away four, how many do you have?
  - A) Two   - B) Four   - C) Six   - D) None
  Answer:

9. Scenario: A clock shows the time as 3:15. What is the angle between the hour and the minute hands?
  - A) 0 degrees   - B) 7.5 degrees   - C) 15 degrees   - D) 30 degrees
  Answer:

10. Scenario: You have two ropes. Each rope takes exactly 60 minutes to burn from one end to the other, but they burn at inconsistent rates. How can you measure exactly 45 minutes?
  - A) Light both ends of one rope and one end of the other rope.
  - B) Light both ends of both ropes.
  - C) Light one end of one rope and both ends of the other rope.
  - D) Light one end of each rope.
  Answer:

11. Scenario: If you could go back in time and change one event in history, what would it be and why?
  Answer:

12. Scenario: If you were stranded on a deserted island and could only bring three items, what would they be and why?
  Answer:

13. Scenario: If you could instantly learn any skill, what would it be and why?
  Answer:

14. Scenario: If you could meet your future self, what would you ask them?
  Answer:

15. Scenario: If you could be any animal for a day, which animal would you choose and why?
  Answer:

16. Scenario: If you could have any job in the world, what would it be and why?
  Answer:

17. Scenario: If you could invent something to make life easier, what would it be and why?
  Answer:

18. Scenario: If you could travel to any point in the future, how far ahead would you go and why?
  Answer:

19. Scenario: If you could switch lives with anyone for a day, who would it be and why?
  Answer:

20. Scenario: If you could master any instrument, which one would you choose and why?
   Answer:

21. Scenario: If you could have a conversation with your past self, what advice would you give?
   Answer:

22. Scenario: If you could change one thing about the education system, what would it be and why?
   Answer:

23. Scenario: If you could eliminate one of your weaknesses, which one would it be and why?
   Answer:

24. Scenario: Imagine you are in a sinking rowboat surrounded by sharks. How would you survive?
   Answer:

25. Scenario: If you could have dinner with any historical figure, who would it be and why?
   Answer:

26. Scenario: If you were given a million dollars to start a business, what kind of business would you start?
   Answer:

27. Scenario: If you could change one law in your country, what would it be and why?
   Answer:

28. Scenario: If you could live in any country in the world, where would you live and why?
   Answer:

29. Scenario: If you could have any superpower, what would it be and how would you use it?
   Answer:

30. Scenario: If you could solve one of the world's biggest problems, which one would it be and why?
   Answer:

Communication skills

1. Choose the correct adverb:
   - It's _ cold outside today.
   a) very   b) too   c) so   d) much
   Answer:
2. Select the correct modal verb:
   - _ you help me with my homework?
   a) Can   b) Could   c) Would   d) Will
   Answer:
3. Choose the correct form of the verb:

- He _ to school every day.
  a) go   b) goes   c) gone   d) going
  Answer:
4. Select the correct adjective:
  - This is the _ book I've ever read.
  a) best   b) better   c) good   d) well
  Answer:
5. Choose the correct preposition:
  - The cat is hiding _ the couch.
  a) in   b) at   c) on   d) under
  Answer:
6. Select the correct conjunction:
  - He sings well, _ he can't dance.
  a) and   b) but   c) so   d) or
  Answer:
7. Choose the correct pronoun:
  - _ is going to the party?
  a) Who   b) Whom   c) Whose   d) Which
  Answer:
8. Select the correct verb tense:
  - They _ watching the movie when I arrived.
  a) have   b) has   c) were   d) was
  Answer:
9. Choose the correct article:
  - I need to buy _ milk from the store.
  a) any   b) some   c) a   d) an
  Answer:
10. Select the correct form of the verb:
  - She _ a great job on her project.
  a) did   b) done   c) does   d) doing
  Answer:
11. Choose the correct adverb:
  - It's _ cold outside today.
  a) very   b) too   c) so   d) much
  Answer:
12. Select the correct modal verb:
  - ___ you help me with my homework?
  a) Can   b) Could   c) Would   d) Will
  Answer:
13. Fill in the blank with the correct form of the verb:
  - She _ (to be) very happy yesterday.
  Answer:
14. Fill in the blank with the correct preposition:
  - The book is _ the table.
  Answer:
15. Fill in the blank with the correct article:
  - I saw _ elephant at the zoo.
  Answer:
16. Fill in the blank with the correct pronoun:
  - _ is your favorite color?
  Answer:
17. Fill in the blank with the correct conjunction:
  - I wanted to go, _ I was too tired.
  Answer:
18. Fill in the blank with the correct adjective:
  - This is the _ (good) day of my life.
  Answer:

19. Fill in the blank with the correct adverb:
    - She sings _ (beautiful).
    Answer:
20. Fill in the blank with the correct form of the verb:
    - They _ (to go) to the park every Sunday.
    Answer:
21. Fill in the blank with the correct preposition:
    - He is interested _ learning new languages.
    Answer:
22. Fill in the blank with the correct article:
    - She is _ honest person.
    Answer:
23. Fill in the blank with the correct form of the verb:
    - She _ (to be) very happy yesterday.
    Answer:
24. Fill in the blank with the correct preposition:
    - The book is _ the table.
    Answer:
25. Fill in the blank with the correct article:
    - I saw _ elephant at the zoo.
    Answer:
26. Fill in the blank with the correct pronoun:
    - _ is your favorite color?
    Answer:
27. Fill in the blank with the correct conjunction:
    - I wanted to go, _ I was too tired.
    Answer:
28. Fill in the blank with the correct adjective:
    - This is the _ (good) day of my life.
    Answer:
29. Fill in the blank with the correct adverb:
    - She sings _ (beautiful).
    Answer:
30. Fill in the blank with the correct form of the verb:
    - They _ (to go) to the park every Sunday.
    Answer:
31. Fill in the blank with the correct preposition:
    - He is interested _ learning new languages.
    Answer:
32. Fill in the blank with the correct article:
    - She is _ honest person.
    Answer:
33. Choose the correct form of the verb:
    - He _ to school every day.
      a) go   b) goes   c) gone   d) going
    Answer:
34. Select the correct adjective:
    - This is the _ book I've ever read.
      a) best   b) better   c) good   d) well
    Answer:
35. Choose the correct preposition:
    - The cat is hiding _ the couch.
      a) in   b) at   c) on   d) under
    Answer:
36. Select the correct conjunction:
    - He sings well, _ he can't dance.
      a) and   b) but   c) so   d) or
    Answer:

37. Choose the correct pronoun:
   - _ is going to the party?
   a) Who   b) Whom   c) Whose   d) Which
   Answer:

38. Select the correct verb tense:
   - They _ watching the movie when I arrived.
   a) have   b) has   c) were   d) was
   Answer:

39. Choose the correct article:
   - I need to buy _ milk from the store.
   a) any   b) some   c) a   d) an
   Answer:

40. Choose the correct form of the verb:
   - She _ to the store every day.
   a) go   b) goes   c) gone   d) going
   Answer:

41. Select the correct adjective:
   - This is the _ book I've ever read.
   a) best   b) better   c) good   d) well
   Answer:

42. Choose the correct preposition:
   - The cat is hiding _ the couch.
   a) in   b) at   c) on   d) under
   Answer:

43. Select the correct conjunction:
   - He sings well, _ he can't dance.
   a) and   b) but   c) so   d) or
   Answer:

44. Choose the correct pronoun:
   - _ is going to the party?
   a) Who   b) Whom   c) Whose   d) Which
   Answer:

45. Select the correct verb tense:
   - They _ watching the movie when I arrived.
   a) have   b) has   c) were   d) was
   Answer:

46. Choose the correct article:
   - I need to buy _ milk from the store.
   a) any   b) some   c) a   d) an
   Answer:

47. Select the correct form of the verb:
   - She _ a great job on her project.
   a) did   b) done   c) does   d) doing
   Answer: