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தமிழ் நாடு அரசு
 தொழில்நுட்பக் கல்வித் துறை, சென்னை 600 025 - வாரியத் தேர்வுகள்
 அடுத்தப் பக்கத்தில் கொடுக்கப்பட்டுள்ள குறிப்புகளை படிக்கவும் (Read the instructions given in the next page)

Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C
1.				9.				17.				25.			
2.				10.				18.				26.			
3.				11.				19.				27.			
4.				12.				20.				28.			
5.				13.				21.				29.			
6.				14.				22.				30.			
7.				15.				23.				31.			
8.				16.				24.				Total Marks			

For Revaluation

For Central Valuation

Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C	Q. No.	A	B	C
1.	3			9.	1			17.				25.			
2.	1			10.	2			18.				26.			
3.	3			11.	14			19.				27.			
4.	3			12.	8			20.				28.			
5.	3			13.	10			21.				29.			
6.	3			14.	7			22.				30.			
7.	0			15.	4			23.							
8.	3			16.	11			24.							

591-1757-23506322



Marks

55

Question Paper Code No.

வினாத்தாளின் குறியீட்டு எண்

1 7 5 7

No. of

எழுதப்பட்ட பக்கங்களின் எண்ணிக்கை

27

Date of Examination :

தேர்வு நாள்

12.11.24

Subject Name :

பாடத்தின் பெயர்

PYTHON PROGRAMMING

Arithmetic operator

Arithmetic operator are used to do the Arithmetic calculation. There two types arithmetic operator

தேர்வாளர்களுக்கான அறிவுரைகள்
INSTRUCTIONS TO CANDIDATES

1. விடைத்தாள் மாற்றிப் பெறுவதற்கு.
Get the answer book replaced, if
 - விடைத்தாள் சரியாக சேர்ந்து பின் செய்யப்படாமல் இருந்தால்.
 - it is not stapled properly
 - விடைத்தாள் புத்தகப் பக்கங்களின் வரிசை எண் விடுபட்டிருந்தாலோ அல்லது வரிசையாக இல்லாமலிருந்தாலோ (மொத்தம் 30 பக்கங்கள்).
 - the page numbers are missing or not in order (there shall be 30 pages continuously numbered)
 - தலைப்பு பக்கத்தில் விடைத்தாள் புத்தகத்தின் கீழ்பகுதியில் வரிசை எண் அச்சிடப்படாமலிருந்தால்.
 - the serial number of the answer book is not printed at the bottom of the title page
2. உங்களுடைய பதிவு எண்ணையும், பெயரையும் அதற்காக கொடுக்கப்பட்டுள்ள தலைப்பு பக்கத்தின் கீழ்பகுதியில் மட்டும் எழுதவும்; அதைத் தவிர்த்து பதிவு எண், பெயர் ஆகியவற்றை விடைத்தாளில் மற்றப் பக்கங்களில் எழுதக்கூடாது. எந்தவிதமான அடையாளக் குறியீட்டையும் விடைத்தாளில் எழுதக்கூடாது.
You are prohibited from writing your REGISTER NUMBER or NAME in any part of the answer book, other than the space provided at the bottom of the title page. You are prohibited from writing or leaving any distinguishing marks so as to identify your answer book.
3. தலைப்புப் பக்கத்தில் கொடுக்கப்பட்டுள்ள அதற்குரிய கட்டங்களில் விவரங்களை எழுதவும்.
Fill up all the particulars, in the relevant boxes, in the title page.
4. கேள்விகளுக்கு பதில் எழுதும் போது விடைத்தாளில் இரண்டு பக்கங்களையும் பயன்படுத்த வேண்டும். பக்கங்களில் தொடர்ந்து விடை எழுதாமல் வெற்றிடம் விடக் கூடாது.
Use both sides of the paper for answering questions, without leaving spaces/ lines in between.
5. இந்த விடைத்தாள் புத்தகம் போதுமான பக்கங்களை கொண்டிருக்கிறது. இதைத் தவிர கூடுதல் விடைத்தாள் அளிக்கப்படமாட்டாது.
This answer book contains sufficient pages and no additional sheets will be issued.
6. கேள்விக்கு விடையளிக்கும் முன்பு வினாத்தாள் எண், வருடம், மாதம், காலம் இவைகளை சரிபார்க்கவும்.
Check the Code Number, Month and year of Examination, Duration etc., in the question paper before answering the questions.
7. கொடுக்கப்பட்டுள்ள வரைப்படத்தாள் / கிராப் ஷீட் தவிர வேறு எந்த விடைத்தாளையும் சேர்க்க கூடாது. விடைத்தாள் புத்தகத்திலிருந்து எந்த பக்கத்தையும் கிழிக்கக் கூடாது.
No extra sheet is to be attached except the drawing/graph sheets supplied and no sheet is to be teared from the answer book.
8. கைபேசி, துண்டுக் காகிதம் மற்றும் தடை செய்யப்பட்ட இதர பொருட்கள் வைத்திருத்தல், தேர்வுக்கு எதிரான முறைகேடுகளில் ஈடுபடுதல் அனைத்தும் தேர்வு வாரிய விதிகளின்படி தண்டனைக்குரிய குற்றமாகும்.
POSSESSION OF ANY PROHIBITED MATERIAL, CELL PHONE, BITS OF PAPERS, etc., AND INVOLVEMENT IN MALPRACTICE OF ANY NATURE SHALL BE PUNISHABLE AS PER BOARD'S RULES.



PART-B

11. a)

~~Operator is nothing but Symbols
In python not having direct input to
keyword. To give the input +~~

11. a)

To python Operators nothing but Symbols
The types of operator

- * Arithmetic operator
- * ^{Short hand} Assignment operator
- * Identity operator
- * Membership operator
- * Bitwise operator
- * Relationship operator
- * Logical operator

Arithmetic Operator

Arithmetic operator are used to
do the Arithmetic calculation. There two types
arithmetic operator



* unary operator

* binary operator

Binary operator

The binary operator needs two
Operand

Operation	Meaning	Example
+	Addition	$5 + 2 = 7$
-	Subtraction	$5 - 2 = 3$
*	Multiplication	$5 * 2 = 10$
/	division	$4 / 2 = 2$
%	modulo division	$6 \% 2 = 3 - 4$
//	Floor division	$A // B$

unary operator

The unary operator needs two
operand



Operation	Meaning	Example
-	unary minus	A-B

Short hand Assignment Operator

Short hand Assignment operator used to do the simplify the coding

Syntax

Variable	Operator	Variable
----------	----------	----------

Operation	Example Meaning	Example
$X = X + 10$	$X = X + 10$ Can be written $X += 10$	
$X = X - 10$	$X = X - 10$ Can be written $X -= 10$	
$X = X * 10$	$X = X * 10$ Can be written $X *= 10$	
$X = X / 10$	$X = X / 10$ Can be written $X /= 10$	



Bitwise Operator

Bitwise Operator are used to do the bit by bit Operation

Operator	Symbol
Bitwise OR	$\parallel$
Bitwise exclusive OR	$\wedge$
Bitwise AND	$\&$
Bitwise NOT	
Bitwise one's Complement	$\sim$
Bitwise left Shift	$\ll$
Bitwise Right Shift	$\gg$



Identify Operator

Identify Operator used to ~~to~~ locate the memory location

Syntax

Variable 1 operators variable 2

S = ("God", "had", "1, 2, 5")

Operator	Operation	Example
is	The value was present in String is True	God is S True
not in	The value not present in String is False	S not is S False

~~Membership Operator~~

~~Membership Operator~~ used Find out the Membership between the member

Syntax

Object



Operator	Operation	$S = (\text{"good", "bad", "S", 6, 7})$
in	Good in S True	
not in	bad not in S False	

Relationship Operator

Relationship Operator is used to compare the two operand

Operator	Operation	Example
$>$	greater than	$A > B$
$<$	smaller than	$A < B$
$==$	equal to	$A == B$
$!=$	not equal to	$A != B$
$<=$	smaller than equal to	$A <= B$
$>=$	greater than equal to	$A >= B$



30

112.a)

* IF Statement

* IF... else Statement

* IF... elif... else Statement

IF Statement

IF Statement is used to do the Flow of ~~Sequence~~ execution. IF the test condition is True ~~loop~~ goto body of the loop. goto ~~no~~ Statement block. IF the test condition is False ~~goto~~ body of the Statement

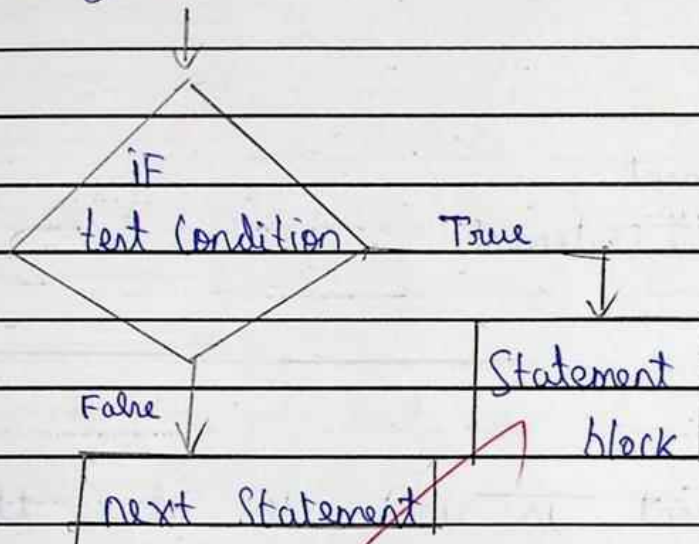
Syntax

if test Condition:
Statement 1
Statement 2

Statement
Next Statement



Flow diagram



Working

- * IF the test condition is True goto Statement block
- * IF the test condition is False goto next Statement

Example

```
Mark = 70
grade = 'A'
IF grade == 'A'
    mark = mark + 10
    print (mark)
```




Output

80

IF else Statement

IF else Statement is used to control the execution

Syntax:

IF test Condition:

Statement 1

Statement 2

...

Statement N

else:

Statement 1

Statement 2

...

Statement N

next Statement

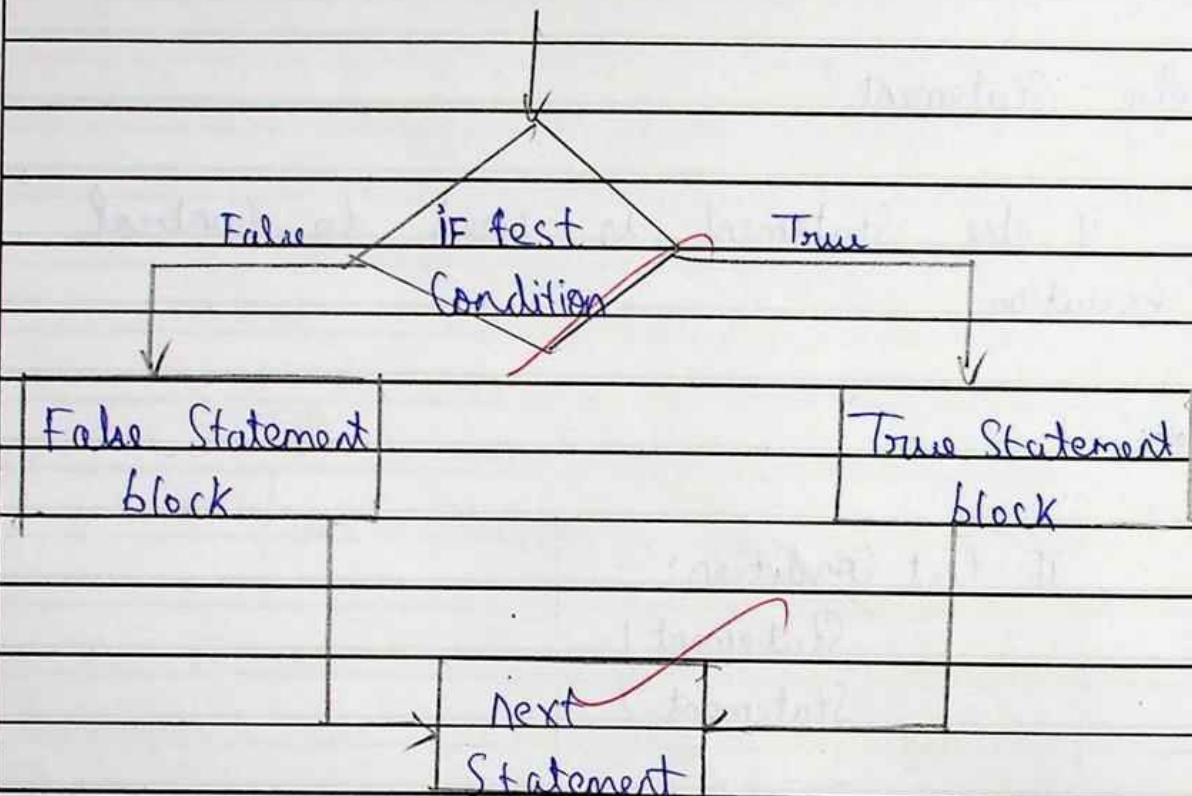
where

test Condition - Statement

next Statement - out of the program



Flow diagram



Working

- * IF the test Condition is True go to True Statement block and goto ~~to~~ next Statement
- * IF the test Condition is False go to False Statement block then goto next Statement



Example

$a = 10, b = 20$

if $a > b$:

print('A', maximum)

else:

print('A', minimum)

if... elif... else Statement

Syntax

if test condition 1:

Statement block 1

elif test condition 2:

Statement block 2

elif test condition 3:

Statement block 3

elif test condition n:

Statement block n

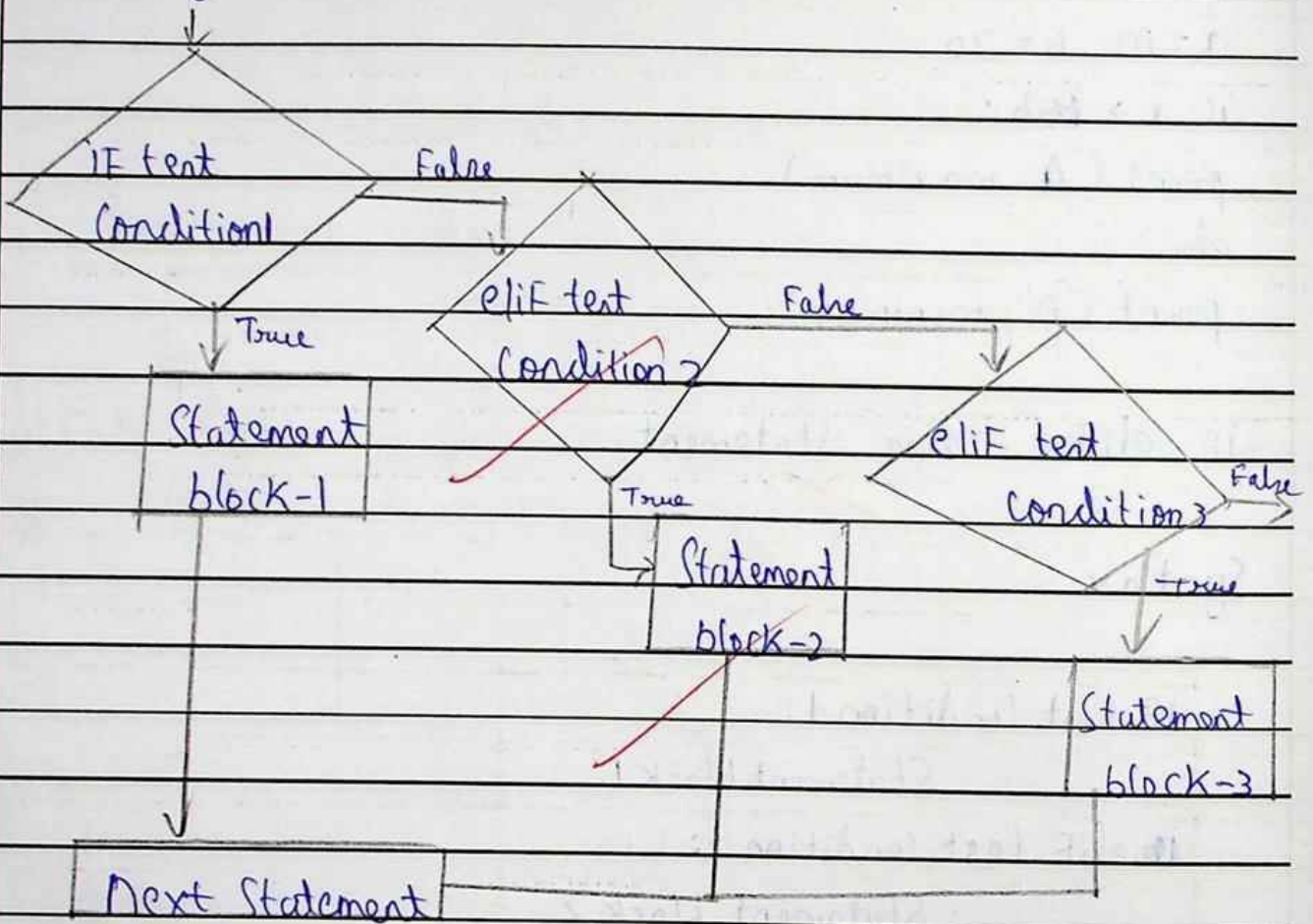
else:

Statement block

next Statement



Flow digrame



Working

- * IF the test Condition 1 is ~~False~~ goto test Condition 2
- * IF the ~~Condition 2~~ also ~~False~~ means goto test Condition 3
- * test Condition is true means goto Statement block 1 and goto next Statement



* test Condition 2 True means goto Statement block 2 and goto next Statement

* test Condition 3 True means goto Statement block 3 and goto next Statement

Example

a = -27

a > 0

if a = 0: @

print ("Zero Division")

elif a == 0:

print ("equal to zero")

else:

print ("empty")

13. a)

print () Function is used to display program output to the user. useful user understanding. There are two types of String Formatting

* Formatting with % operator

* Formatting with format() Function



Formatting with % operator

Formatted with % Operator output display to the needs of users

Syntax

```
'message' % character (conversion message) % character  
(conversion) ... (v1, v2 ...)
```

Where

v1, v2 - value

% - Operator

character - String

message - additional information

x - actual integer

S - String

C - Single String

H - Hexal decimal

D - actual decimal



Example

Name = 'Ramu'

Age = 17

address = 'Tiruppur'

```
print ( Name %s, Age %x, address %s)
```

~~Output~~ Formatting with Format() Function

Format() Function ~~was~~ display ~~out~~ output to the needs of user

Syntax

```
'message (index: specifier), message (index: specifier),  
... message (index: specifier)'. Format (index1 = value1  
index2 = value2 .. indexn = valuen)
```

Where

message - ~~additional~~ information

index - easy to locate

() - Format Function



Example

```
print ('Name {3}, age {3}, Mark {3}'.format (Edwin {3}  
27 {3}, 70 {3}))
```

Output

Name : Edwin, age : 27, Mark : 70

14. b)

dictionary creation

Dictionary is a Flexible unordered collection. Dictionary are enclosed with curly bracket.

Syntax

```
variablename = {key value : key value}
```

Where

variablename - name of the variable



Example

$d = \{1001 : \text{'Ramu'} , 1002 : \text{'Bamu'} \}$

~~de~~

Accessing values of a dictionary

S = 1001 God	Bad	5	7	9
0	1	2	3	4
-5	-4	-3	-2	-1

Right to left index is a negative index -1 to -5 and left to right index is a positive index. There are two types in accessing the value in dictionary

- * Accessing a value ~~index~~ in dictionary
- * Slicing in dictionary



Accessing values in dictionary

To Accessing a value in dictionary

Syntax

~~Variable . index~~

Example

~~S = {1001: 'Ramu', 1002: 'Baru', 1003: 'Ram'}~~

~~S1 = S[1]~~

~~print(S1)~~

Output

{1002: 'Baru'}

Slicing of dictionary

To take the range of the value in given dictionary

~~Variable [start: stop]~~



Updating dictionary

Updating dictionary is the process of changing dictionary name, ~~edit~~ write in a dictionary etc..

Syntax

```
dictionary name. update ( )
```

where

dictionary name - name of the dictionary

Example

```
S = {'1001': 'Ramu', '1002': 'Baru' }
```

```
S. update (S, S1)
```

```
print (S1)
```

Output

```
S1 = {'1001': 'Ramu', '1002': 'Baru' }
```



15.6)

Directory is used to store the File and Folder in hard disk. User save the File ~~on~~ on hard disk. In any one directory save the File.

Directory methods are

- * ~~getcwd()~~
- * ~~rmdir()~~
- * ~~mkdir()~~
- * ~~listdir()~~
- * ~~mkdtemp()~~

Getcwd()

This method is used to Display the Current directory

Syntax

OS.getcwd(OS.(directory name)



Where

getcwd - current working

directory name - name of the directory

Example

OS.getcwd

OS (dl)

cddir ()

This method is used to change the ~~current~~ directory to another directory

Syntax

OS.cddir

OS (Name)

Where

OS - directory

Name - Name of the directory



Example

OS cddir.

OS (d2)

mkdir()

This method is used to create a new directory

Syntax

OS mkdir OS (Name)

Where

OS - directory

Example

^{OS}
~~OS~~ mkdir

OS (d1)



listdir()

This method is used to ~~all~~ show all files and folders

Syntax

os.listdir.
os ()

Where

os - directory

Example

os.listdir.

os (File 1, File 2)

rmdir()

This method is used to delete the directory



Syntax

OS rmdir.
OS (.)

Where

OS - directory

Example

OS rmdir.
OS (d1)



PART-A

1.

- * Easy to use
- * Expressive Language
- * Robust
- * Easy to learn
- * Object oriented language
- * Portable
- * Free and open source

3.

~~break~~

Break

Continue

~~In~~ In break can skip whole loop and come out from the loop

In Continue can skip the part of the loop

5.

We are access the value to the variable it cannot be change it is called immutable. immutable property such as like tuple etc...



6. ~~pop~~ Operator is used to get back the value. Stack was used the pop Method to get back the value

7. * Accessing a individual of Tuple
* Slicing a tuple

8. Dictionary is a Flexible unordered collection. Object. Created with curly bracket

Syntax

`variable name = {key: value ... Key value }`

9. Renaming is the process of change the existing File into New File name

Syntax

`Variable name = filename (oldname, newname)`



variablename.Rename (^{Index} oldname ~~newname~~)

10.

Exception means combination two process consider one process. The First process output is a second process input

Syntax

try :

Critical Section
Exception handling
next statement

2. expression is the Statement given by the instruction From user. Types of expression

* Logic expression

* Relational expression

4.

* Easy to use

* Object are execute in Function

* Easy to learn

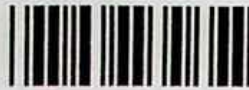
* Function are called method

Certified that this answer book

Contains 27 written Pages

27

Chief Co-ordinator



This image shows a single sheet of white paper with horizontal blue or grey ruling lines. A diagonal line runs from the top left corner towards the bottom right, creating a narrow margin on the left side. The paper appears to be a standard notebook page. There are some faint smudges and marks on the surface, particularly near the center and bottom right.

