

K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: **August–November 2021**
In-Semester Examination

Class: TY B. Tech

Branch: All Branches(OET)

Full name of the course: Mobile application Development – Flutter

Duration: 1hr.15 min (attempting questions) +15 min (uploading)

Semester : V

Course Code: 2UST502

Max. Marks: 30

Q. No	Questions	Marks
Q1	<p>Attempt all MCQs 1-6 carry 1 mark each 7-8 carry 2 marks each. Write answer with correct option (e.g. C. Correct Answer)</p> <p>1. Which widget in Flutter is a box that comes with a specified <u>size</u>.</p> <p>A. Container B. Row C. Column D. SizedBox</p> <p>2. Project's configuration file that will use a lot during working with the Flutter project.</p> <p>A. settings.gradle B. pubspec.yaml C. manifest.xml A. D.pubspec.xml</p> <p>3. What is Flutter?</p> <p>A. Flutter is an open-source DBMS and open-source backend toolkit B. Flutter is an open-source UI toolkit C. Both A and B D. None of the above</p> <p>4. Which of the following widget is used to wrap a Column, Row, Container, or other widgets? This widget adds a filling size around the child widget.</p> <p>A. Image B. SnackBar C. Padding D. AlertDialog</p>	10 marks (1 or 2 MARK EACH)

5. Function that is responsible for returning the widgets that are attached to the screen as a root of the widget tree and will be rendered on the screen.

- A. Container()
- B. runApp()
- C. main()
- D. Scaffold()

6. Which of the following statement calls function `oetExam()` correctly? Given `oetExam()` is defined as:

```
String oetExam(String s1, String s2, [String s3])  
{  
  return s3 == null? '$s1 $s2': '$s1 $s3 $s2';  
}
```

- A. var a = oetExam('Mobile', 'Application', ['Development']); print('\$a');
- B. var b = oetExam('Mobile', 'Application', null); print('\$b');
- C. var c = oetExam('Mobile', 'Application', s3: 'Development'); print('\$c');
- D. var d = oetExam(s1:'Mobile', s2:'Application', s3: 'Development'); print('\$d');

7. What will be the output?

```
void main() {  
  test();  
  myadd("Add", 11, 22);  
  print("Multi:: ${multi(10, 5)}");  
}  
Function myadd = (String op, int n1, int n2) {  
  print("N1= $n1 and Num2= $n2");  
  print("$op :: ${n1 + n2}");  
  result("Subtract", 11, 22);  
};  
Function result =  
  (String op, int n1, int n2) => print("$op $n1 - $n2");  
var multi = (int n1, int n2) => n1 * n2;  
var test = () => print("All the best");
```

A. All the best
N1= 11 and Num2= 22
Add :: 33
Subtract -11
Multi:: 50

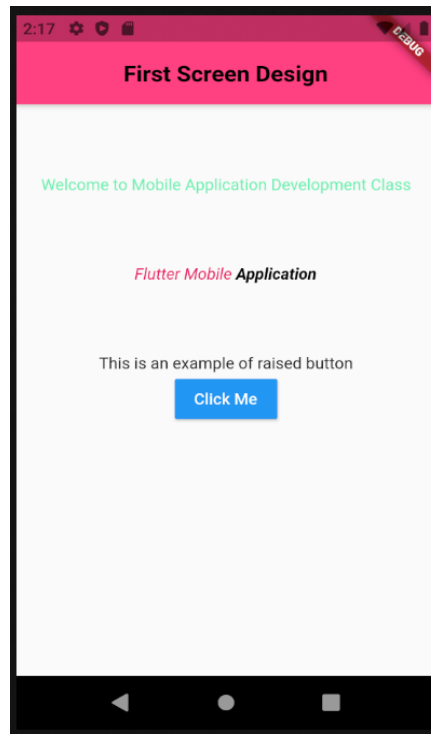
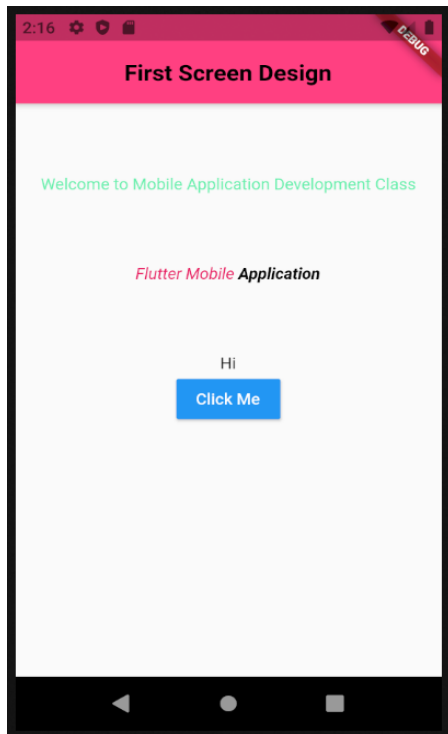
B. All the best
N1= 11 and Num2= 22
Add :: 33
Subtract 11 - 22
Multi:: 50

C. All the best
N1= 11 and Num2= 22
Add :: 11 + 22
Subtract -11
Multi:: 50

D. Error in code

	<p>8. What will be Output?</p> <pre> void main() { var student1 = Student(200, "Student1"); print("\${student1.id} and \${student1.name}"); student1.study(); student1.code(); print(""); var student2 = Student.myCustomConstructor(); print("\${student2.id} and \${student2.name}"); student2.study(); student2.code(); } class Student { int? id; String? name; Student(); Student(this.id, this.name); Student.myCustomConstructor() { this.id = 100; this.name = "Student2"; } void study() =>print("\${this.name} is now studying"); void code() =>print("\${this.name} is now coding"); } </pre> <p>A. Error in Compilation B. Error in Execution</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #2e3436; color: white; padding: 5px; width: 45%;"> <p>100 and Student2 200 and Student1 Student1 is now studying Student1 is now coding Student2 is now studying Student2 is now coding</p> </div> <div style="background-color: #2e3436; color: white; padding: 5px; width: 45%;"> <p>200 and Student1 Student1 is now studying Student1 is now coding 100 and Student2 Student2 is now studying Student2 is now coding</p> </div> </div> <p>C. D.</p>	
Q2	Attempt ANY ONE of following: a. Illustrate difference between Stateful widgets and Stateless widgets used in Flutter	05 marks
	b. What is Fat Arrow Notation in Dart and when do you use it with an example?	05 marks
Q3	<p>Attempt ANY ONE of following:</p> <p>a. You are given an interface <i>AdvancedArithmetic</i> which contains a method signature <i>int divisor_sum(int n)</i>. You need to write a class called <i>MyCalculator</i> which implements the interface.</p> <p><i>divisorSum</i> function just takes an integer as input and return the sum of all its divisors.</p> <p>For example divisors of 6 are 1, 2, 3 and 6, so <i>divisor_sum</i> should return 12. The value of n will be at most 1000.</p>	05 marks

	<p>b. Write a program in Dart to accept the values of a, b, c, d and calculate and display $((a*b) + (b*c)) / (b*d)$. Create user defined exception to display proper message when value of $(b*d)$ is ZERO.</p>	
Q4	<p>a. Attempt ANY ONE of following:</p> <pre> import 'package:flutter/material.dart'; void main() { runApp(MyApp()); } class MyApp extends StatefulWidget { _State createState()=>new _State(); } class _State extends State<MyApp> { String _value='Hi'; void _onPressed() { setState(() { _value=' 1 '; }); } @override Widget build(BuildContext context) { return new MaterialApp(home:Scaffold (appBar: AppBar(backgroundColor: Colors.pinkAccent, title: Center(child:Text('First Screen Design', style:TextStyle(fontWeight:FontWeight.bold,color:Colors.black),),),),),),), } </pre> <pre> body:Container(child: 2 (child: 3 (children: [Padding(padding:EdgeInsets.all(32.0)), Text('Welcome to Mobile Application Development Class', style:TextStyle(color: Colors.greenAccent)), Padding(padding:EdgeInsets.all(32.0)), 4 (text:TextSpan(text:'Flutter Mobile ', style:TextStyle(color:Colors.pink,fontStyle: FontStyle.italic,), children: [TextSpan(text:'Application', style:TextStyle(color:Colors.black,fontWeight:FontWeight.bold)),],), Padding(padding:EdgeInsets.all(32.0)), Text(_value), RaisedButton(onPressed: 5 , child:Text('Click Me',style:TextStyle(color:Colors.white)), color:Colors.blue,),],),),); } </pre>	05 marks



OR

```
import 'package:flutter/material.dart';

void main() {
  runApp(new MaterialApp(
    home: new MyApp(),
  ));
}

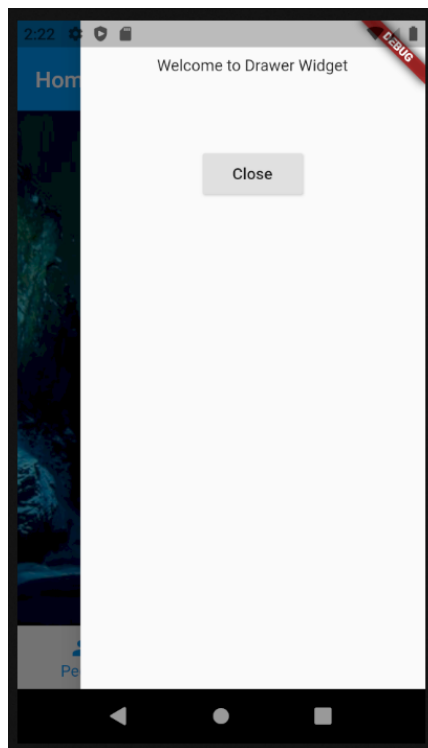
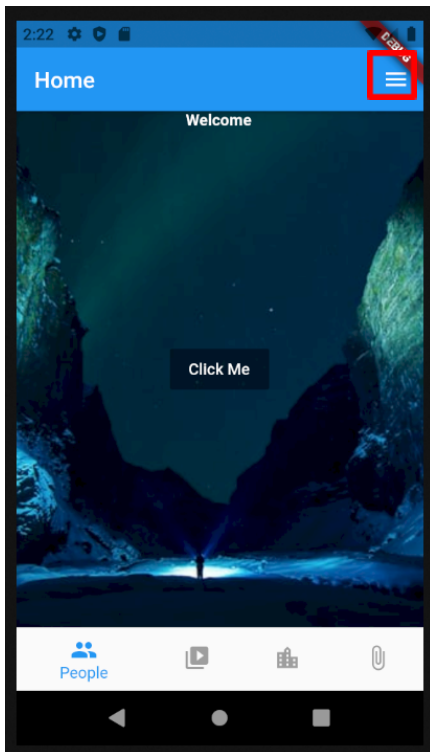
class MyApp extends StatefulWidget {
  @override
  _State createState()=>new _State();
}

class _State extends State<MyApp>
{
  int _index=0;
  String _value='';
  List<BottomNavigationBarItem> _items;
  @override
  void initState()
  {
    _items=new List();
    _items.add(new BottomNavigationBarItem(icon:Icon(Icons.people),title:Text('People')));
    _items.add(new BottomNavigationBarItem(icon:Icon(Icons.video_library),title:Text('Video')));
    _items.add(new BottomNavigationBarItem(icon: Icon(Icons.location_city),title:Text('Location')));
    _items.add(new BottomNavigationBarItem(icon: Icon(Icons.attach_file),title:Text('File')));
  }
  @override
  Widget build(BuildContext context){
    return new MaterialApp(
      home:Scaffold(
        appBar:new AppBar(
          title: new Text('Home'),
        ),
      ),
    );
  }
}
```

```

1: new Drawer(
  child: new Container(
    padding: EdgeInsets.all(32.0),
    child: new Column(
      children: <Widget>[
        new Text('Welcome to Drawer Widget'),
        Padding(padding: EdgeInsets.all(32.0)),
        new RaisedButton(onPressed: ()=>Navigator.pop(context), child: new Text('2'),)
      ],),
    ),
  ),
  body: Center(
    child: Container(
      height: double.infinity,
      width: double.infinity,
      child: 3 (
        children: [
          Container(
            decoration: 4 (
              image: DecorationImage(image: AssetImage("assets/images/image2.jpg"),
                fit: BoxFit.cover,
              )
            ),
          ),
          Padding(padding: EdgeInsets.symmetric(horizontal: 150),
            child: Text('Welcome',
              style: TextStyle(color: Colors.white, fontWeight: FontWeight.bold),),
          ),
          Center(child: RaisedButton(onPressed: null, child: Text('Click Me',
            style: TextStyle(color: Colors.white))),
          ),
          Text(_value),
        ]
      )
    ),
  ),
  bottomNavigationBar: BottomNavigationBar(
    items: 5,
    unselectedItemColor: Colors.grey,
    fixedColor: Colors.blue,
  ),
);
}

```



Details for your reference

RE (Remember), UN (Understand), AP (Apply), AN (Analysis), EV (Evaluate) and CR (Create)

According to revised Bloom's taxonomy, the levels in cognitive domain are as follows:

Level	Descriptor	Level of attainment
1	Remembering	Recalling from memory of previously learned material
2	Understanding	Explaining ideas or concepts
3	Applying	Using information in another familiar situation
4	Analysing	Breaking information into part to explore understandings and relationships
5	Evaluating	Justifying a decision or course of action
6	Creating	Generating new ideas, products or new ways of viewing things