Information and Communication Technology (ICT) Skill
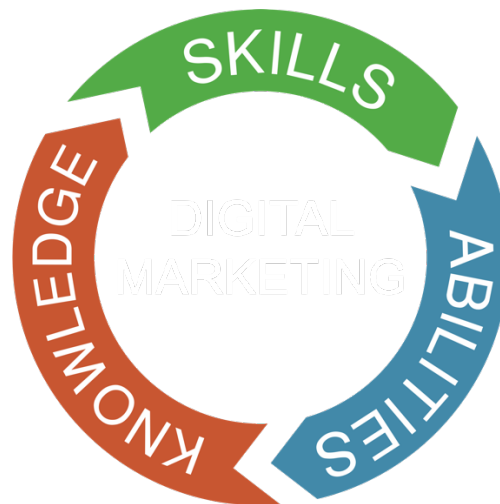
Software User Manual

Version 1.4

Developed by

M. Kumarasamy College of Engineering

Karur 639113, Tamil Nadu, India

Release Date : 01 July 2019

Information and Communication Technology (ICT) Skill Software

(ICT Skill Software – USER MANUAL)

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1. About ICT Skill Software

ICT Skill is a Web Based Online Technical and Aptitude Practice Tool.

1.1 ICT Skill Software was developed based on the broad guidelines provided by the National Mission on Education through ICT under the Ministry of Human Resource Development. Government of India.

1.2 ICT Skill Software:
   o Plays a vital role in building technical competency among teachers and students. It gives exposure to the students to learn the course using the Internet. It is a Self-learning practice tool.
   o Is an auto evaluation tool used for students and faculty to learn and acquire technical skills and aptitude using their smart phones / Tabs / Laptops etc. Its features of providing hints after answering can reemphasize or relearn wrongly learnt concepts.
   o Allows student learners to register for a course and learn. It also facilitates faculty members to monitor and track the learner's performances and generate reports
   o Contains around 1.5 lakh aptitude (both technical and generic problems/questions across various disciplines of engineering, science and management streams. [Refer Annexure – I]
   o It has three levels of learning complexity based on Bloom's taxonomy and it bridges skill gap between industry and academia.

1.3 ICT Skill Software has the following advantages:
   o Prepare Learners to develop Speed and Accuracy in identifying solutions to problems/questions.
   o Old GATE/IES/GRE/GMAT and other competitive exam questions are also pooled into the database.
   o Learners can try different question sets to solve a problem and develop broad knowledge spectrum
   o Learners develop accuracy and speed and also avoid mistakes and errors both in coding and logic
   o They have faster processing times, there's no room for subjectivity.
   o One can ask more questions, as it takes less to time to complete a multiple choice question compared to an open question
   o Respondents don't have to formulate an answer but can focus on the content
   o Well-written questions can move students to higher-order thinking, such as application, integration, and evaluation.
   o Allows for inclusion of a broad range of topics on a single exam thereby effectively testing the breadth of a student's knowledge.

1.4 ICT Skill Software also integrates the best learning practices followed in MKCE :
   o Critical Thinking
   o Analytical Reasoning
   o Reflective Thinking
   o Problem Solving
   o Scientific Reasoning
   o Design thinking

1.5 ICT Skill Software supports the following Learning Paradigms:
   o Definition Based Learning
   o Virtual Learning
   o Progressive Inquiry Learning
   o Problem Based Learning
   o Inquiry Based Learning
   o Self-Learning
   o Flipped Class Learning
   o Life Long Learning
   o Online Learning

2. Administrator (Role)

The ICT Skill is an Aptitude and Skill Proficiency Practice Tool. We can View the available modules, category, topics and the questions count.


2.1 Add Module/Category/Topic: Type module name, category name and topic name by clicking add button in add module/category/topic. It is listed below (i.e. topic list)
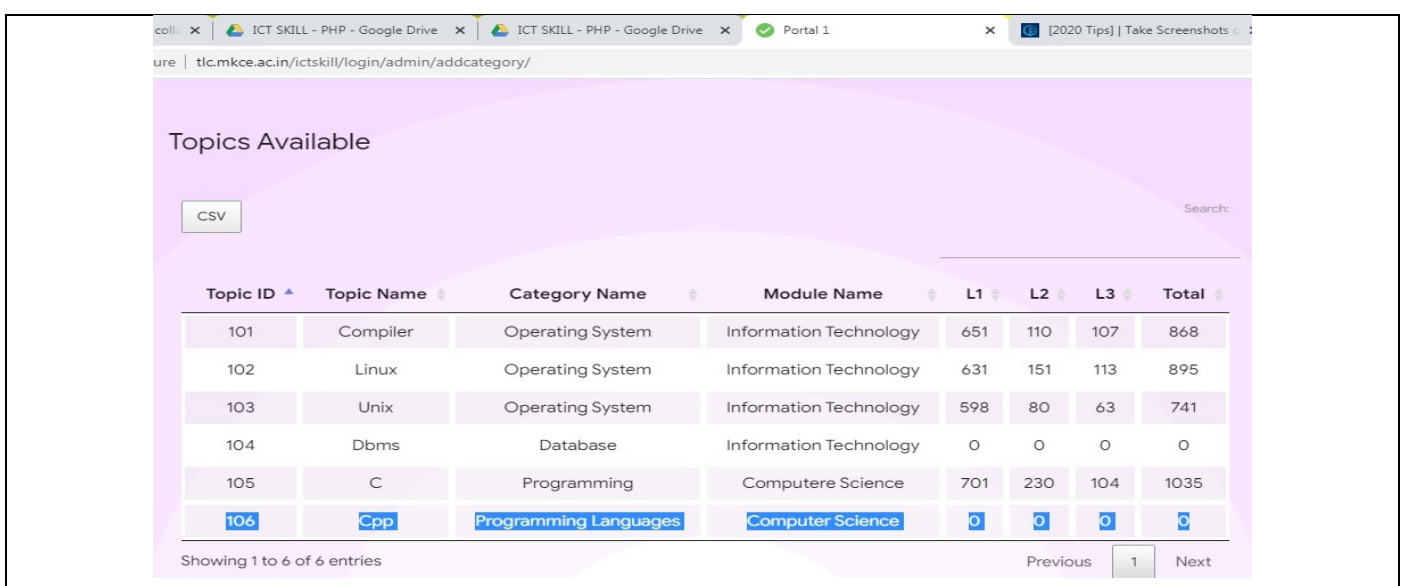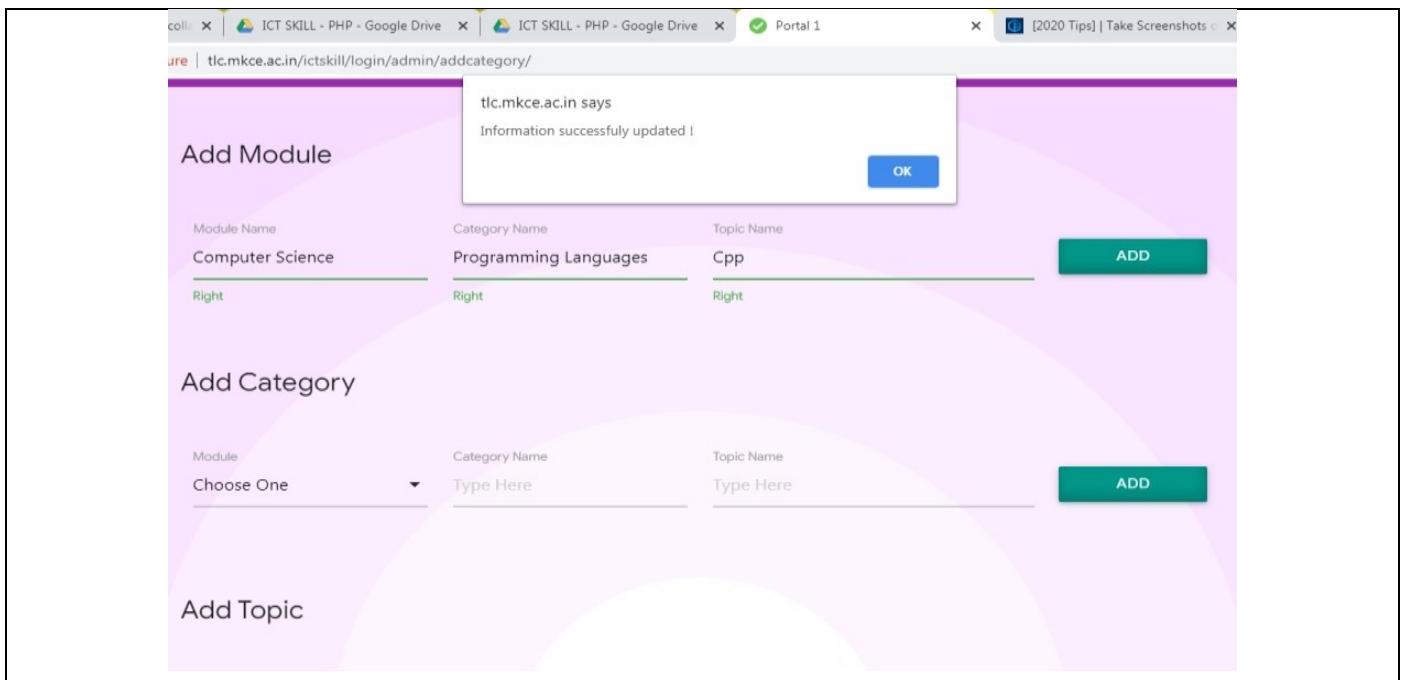
2.2 Adding Questions: Now you need to add questions to each level based on your requirement. To add questions, the following operations are needed to performed:

o Generate files as cpp.csv (doesn't exceed 300kb).
o Inside the files specify which level the questions are added. For example, cpp.csv contains 1000 questions, we need to specify in cpp.csv file that level 1 contains 700 questions, level 2 contains 200 questions and level 3 contains 100 questions.
o Upload cpp.csv file by selecting category and topic
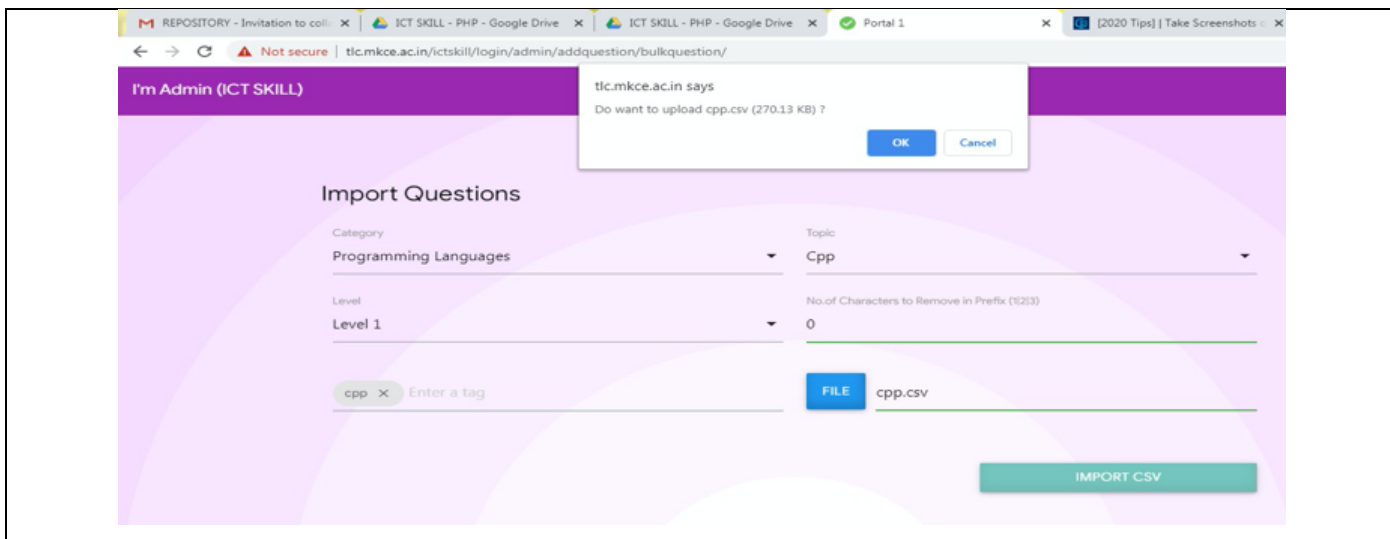
Now questions added to each level are listed in your topic list
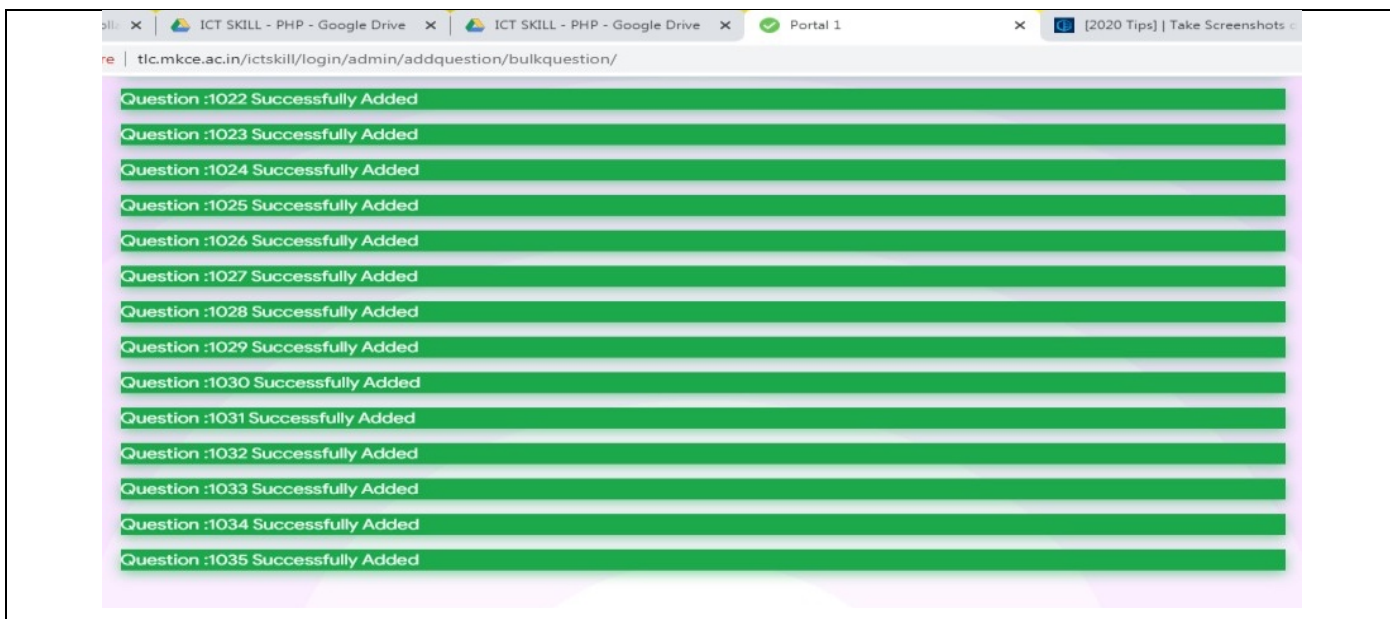
2.3 View/Edit Question: If you want to edit/view questions, the following steps are needed to performed

o Select category and topic
o Click View button
o It returns all the questions presented in the topic.
o Click Edit button to edit any question if needed
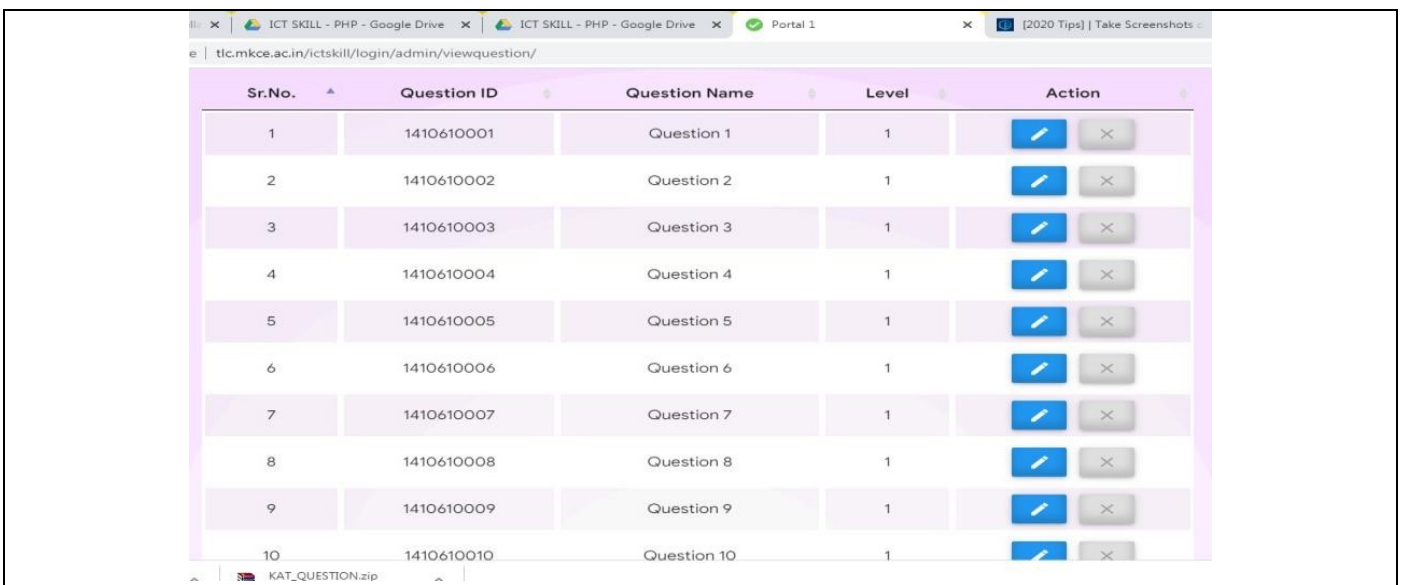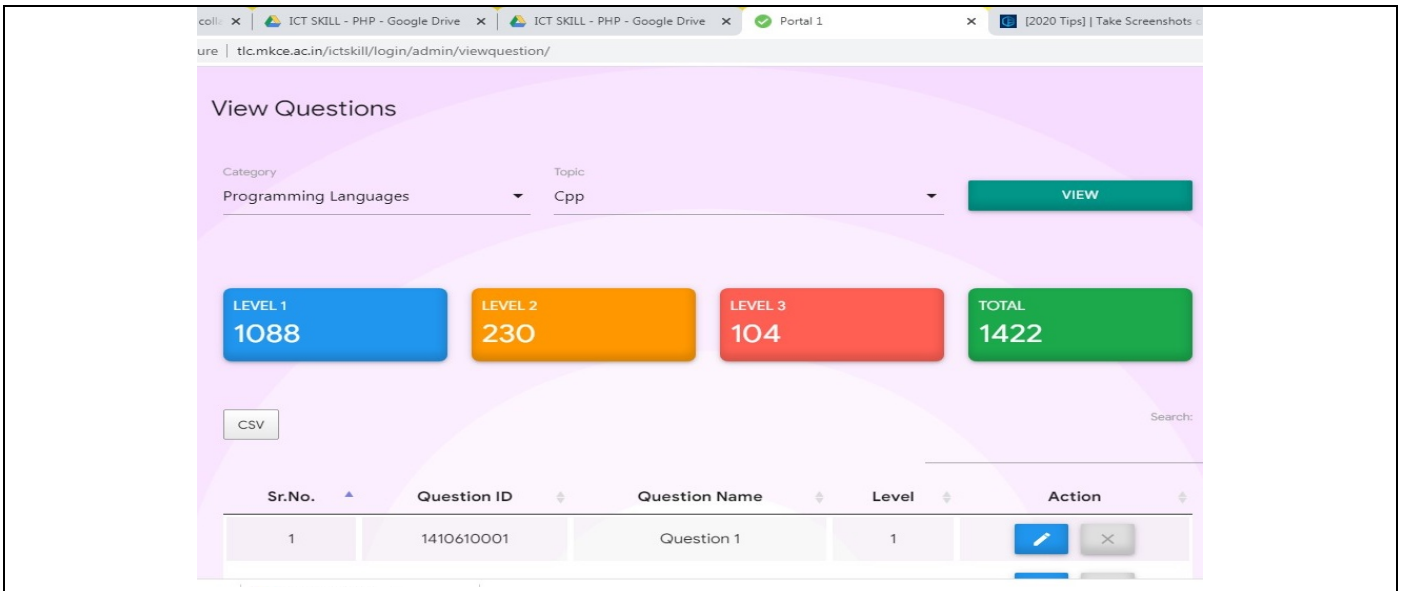
2.4 Assessment / Test Section:

o Enable/Disable student test login
o View Online Users
o Collect Class-wise, Department-wise and Student-wise Report

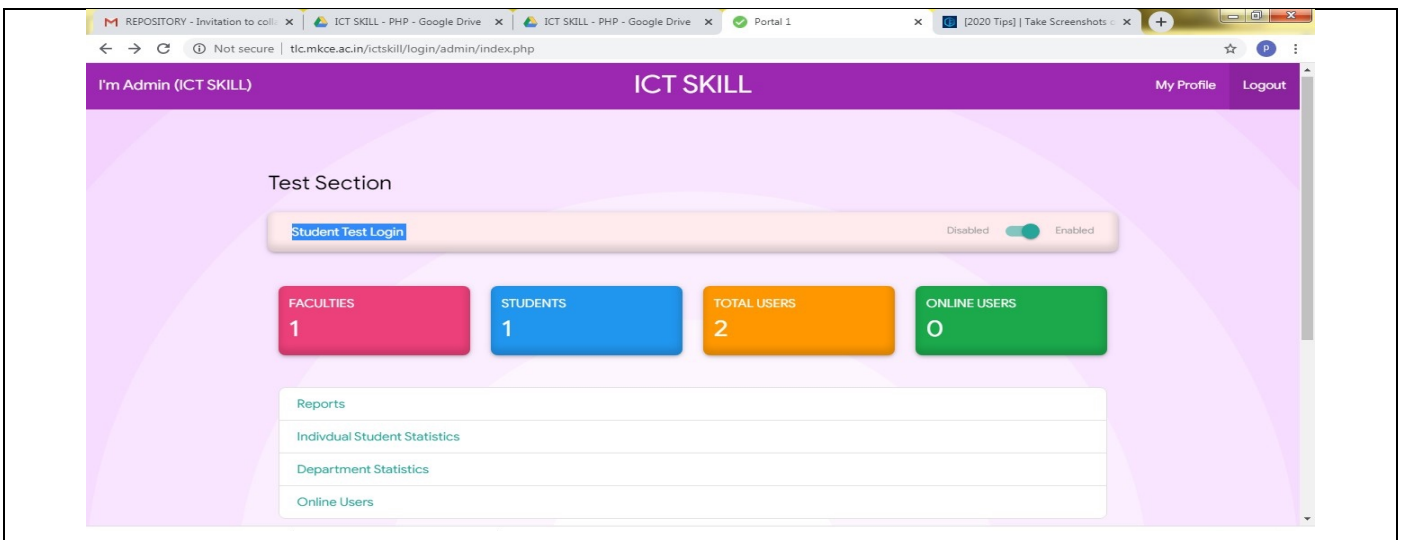**2.5 Edit Profile:** If you want to change password, go to My Profile -> type new password -> Click Update button. Now password is updated successfully
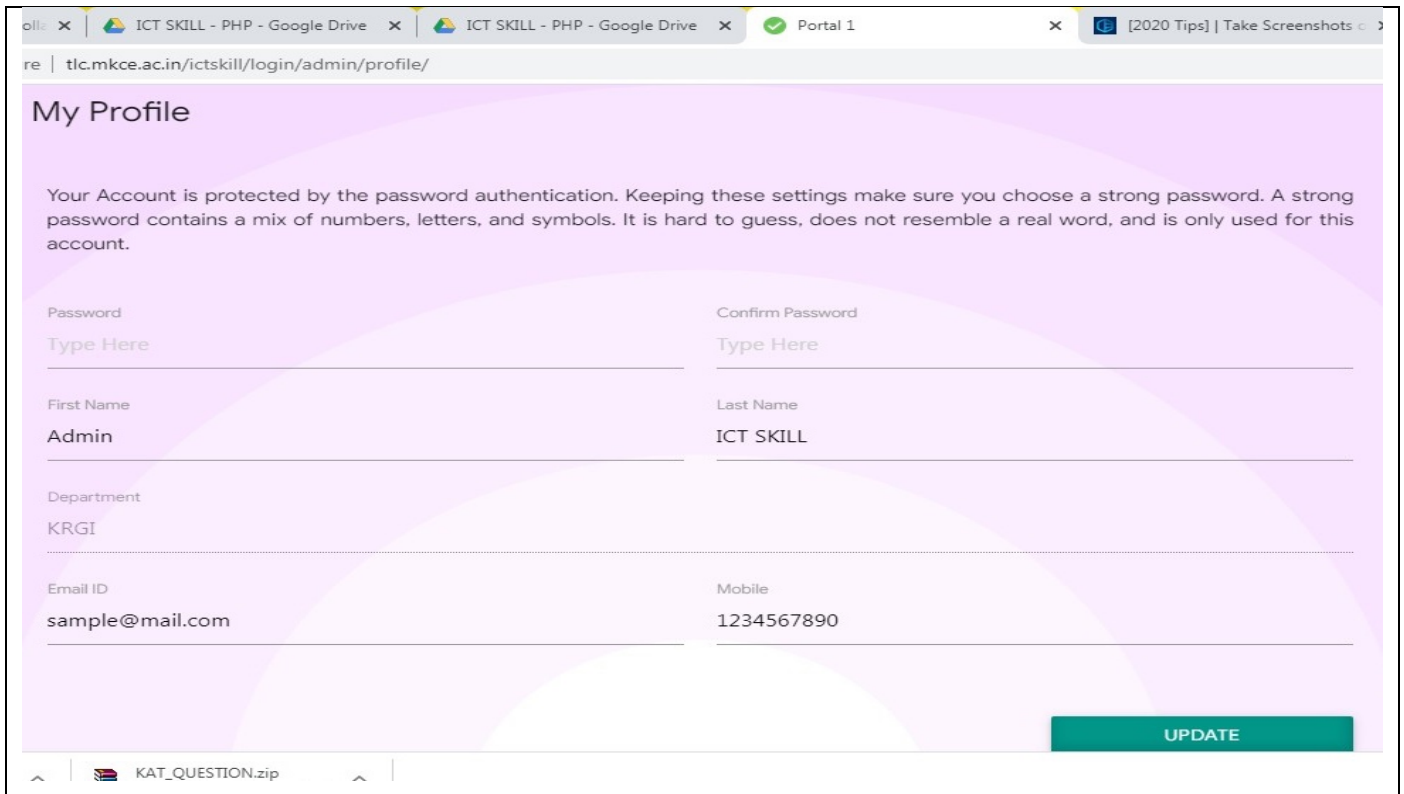
3. Coordinator (Role)

The role of a Coordinator is described in the sections to follow.

3.1 Question Section: View the available category, topic and questions count
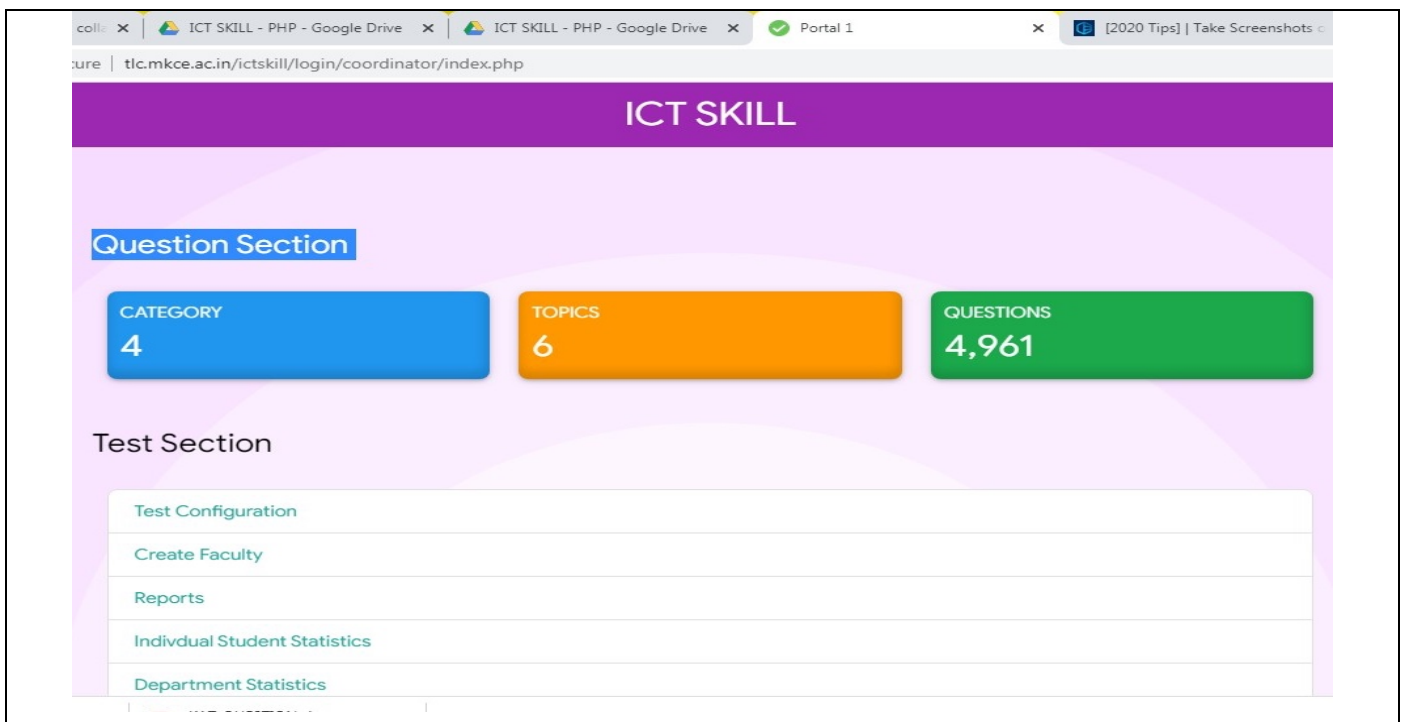
3.2 Assessment / Test Section:

○ Create Faculty,
○ Enter faculty id and name, choose department, year and section -> click "submit".
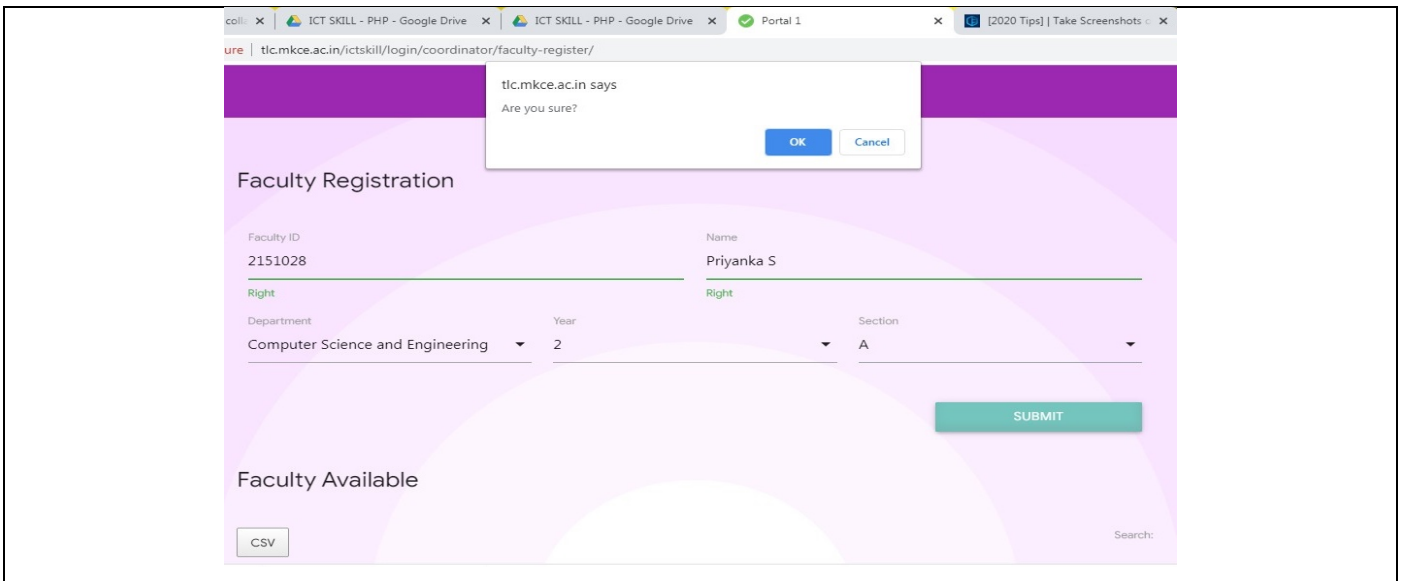
○ Faculty is allocated to the selected section successfully and password is generated automatically, that is listed in the faculty list.
○ Share username and password to the corresponding faculty before test.
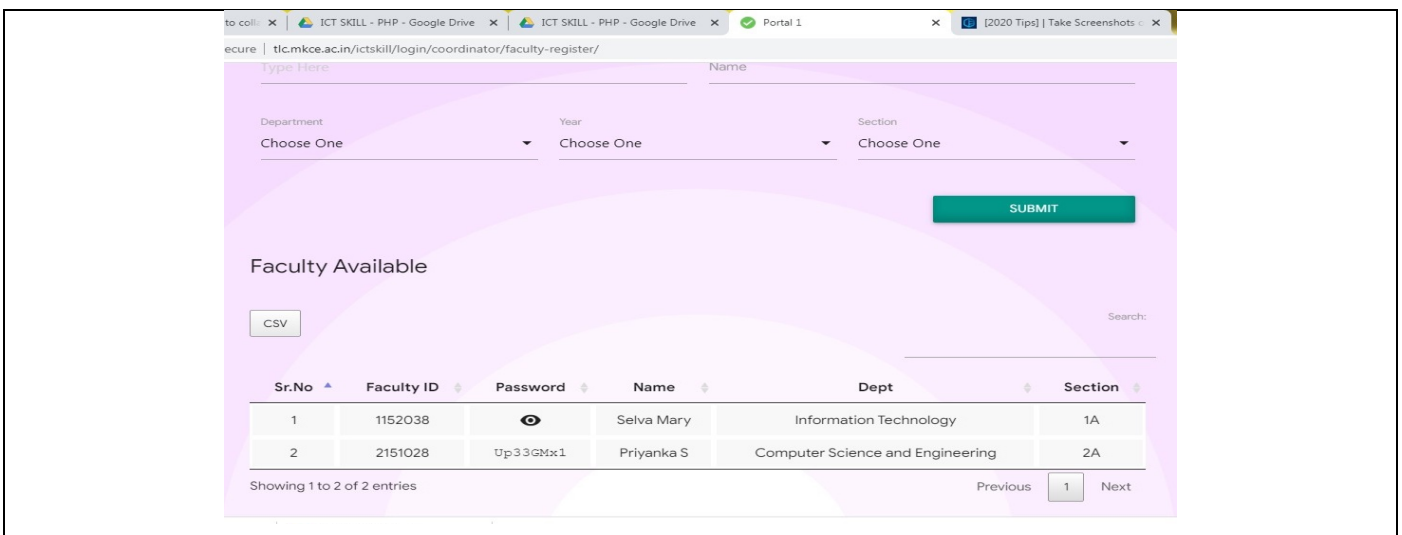
Test Configuration: Choose Year -> Based on selected year, enable topic and allocate question count. Also, set time duration based on single question.
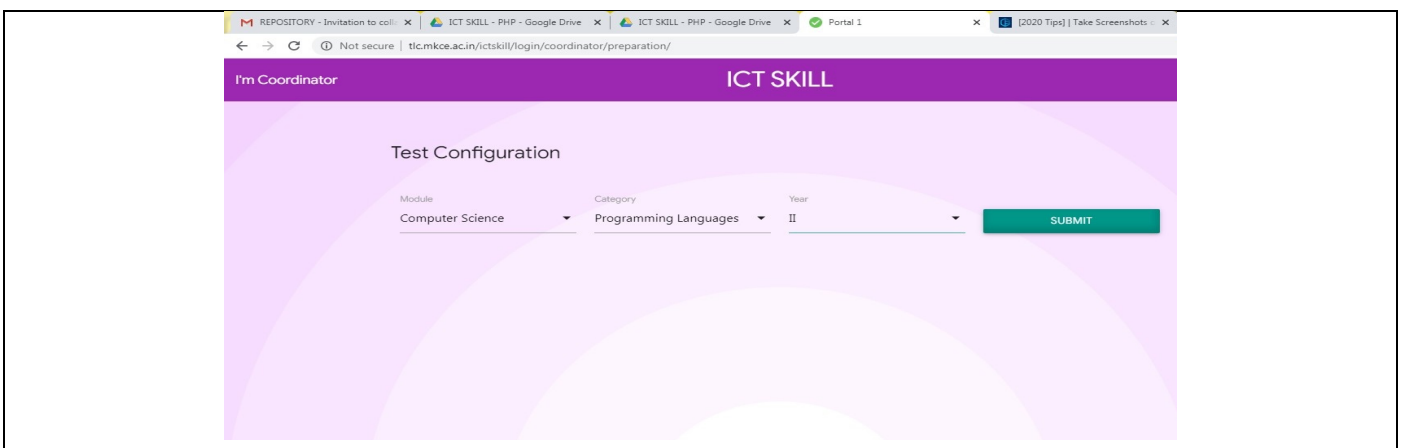
○ For example, if you choose 1st year, then enable 3 topics out of 10, allocate question count 10 to each 3 topics and set 1 minute to each question -> click update. These configurations are common to all the 1st year students to take test.
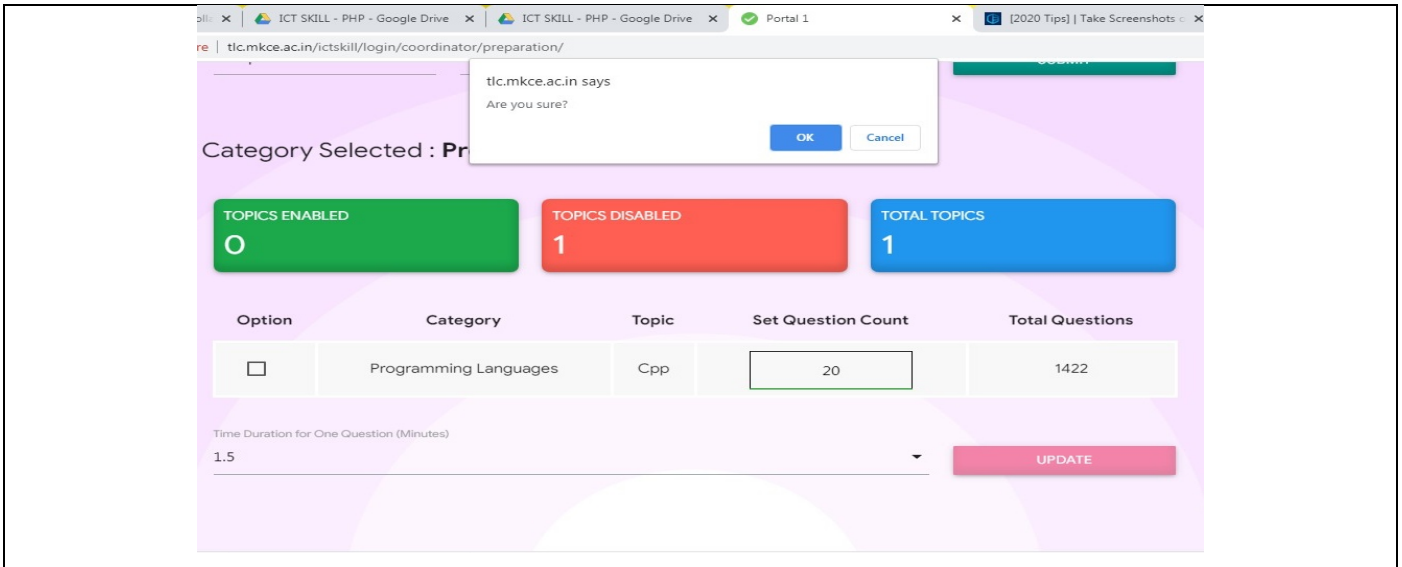
Report: Collect Class-wise, Department-wise and Student-wise Report

3.3 User Section: View the available faculty and student count
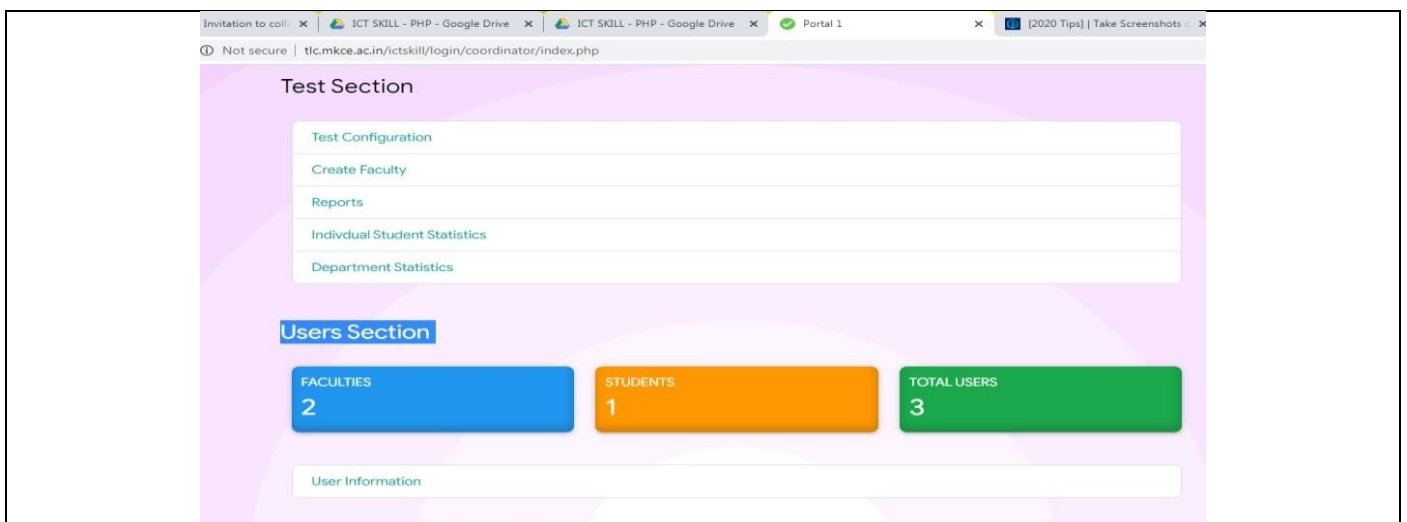
▪ View user information by searching userid. Also reset password if needed

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3.4 Edit Profile:

- o If you want to change password, go to My Profile -> type new password -> Click Update button. Now password is updated successfully.

4. Faculty (Role)

4.1 Student Registration: Faculty members can register either one student or bulk of students.

- o Enter Student ID and Student name -> Click Submit. Single student are registered successfully and password are generated, that is listed in the student list.

Files (.csv file) are imported to upload bulk of students -> Click Submit. Bulk of students is registered successfully and password is generated for all the students registered, that are listed in the student list. Share username and password to students before conducting test.
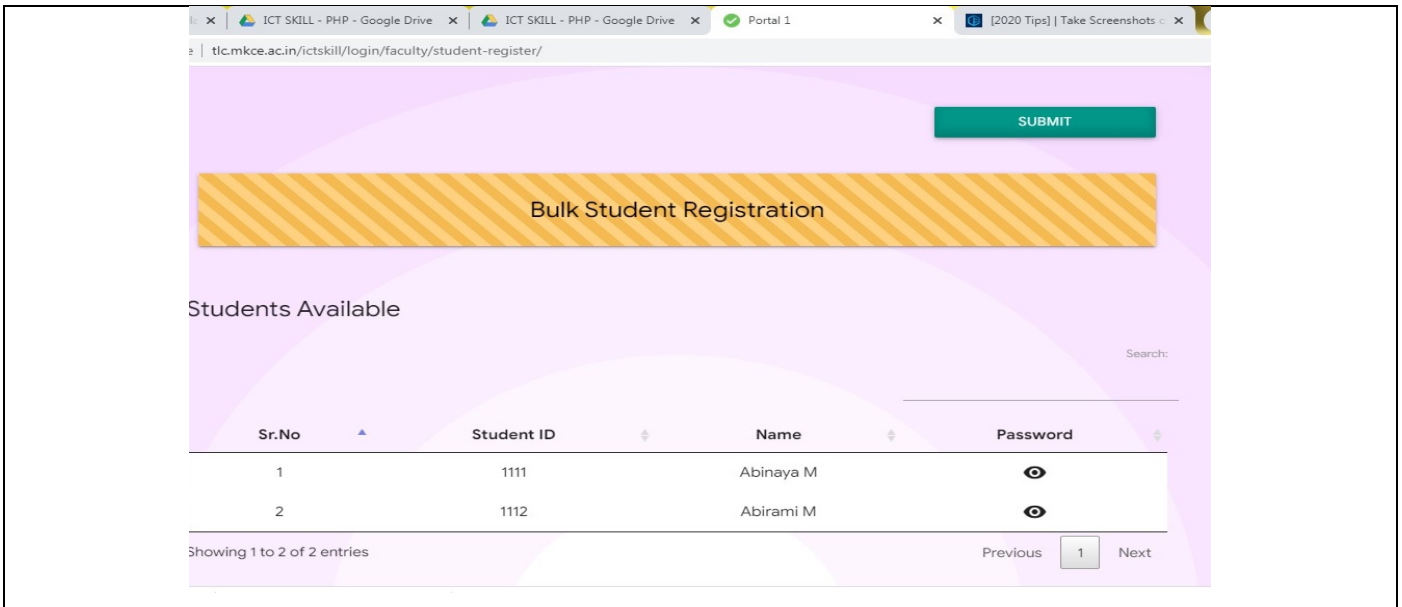
4.2 Report Queries: Requested queries are handled by faculty and return response to students
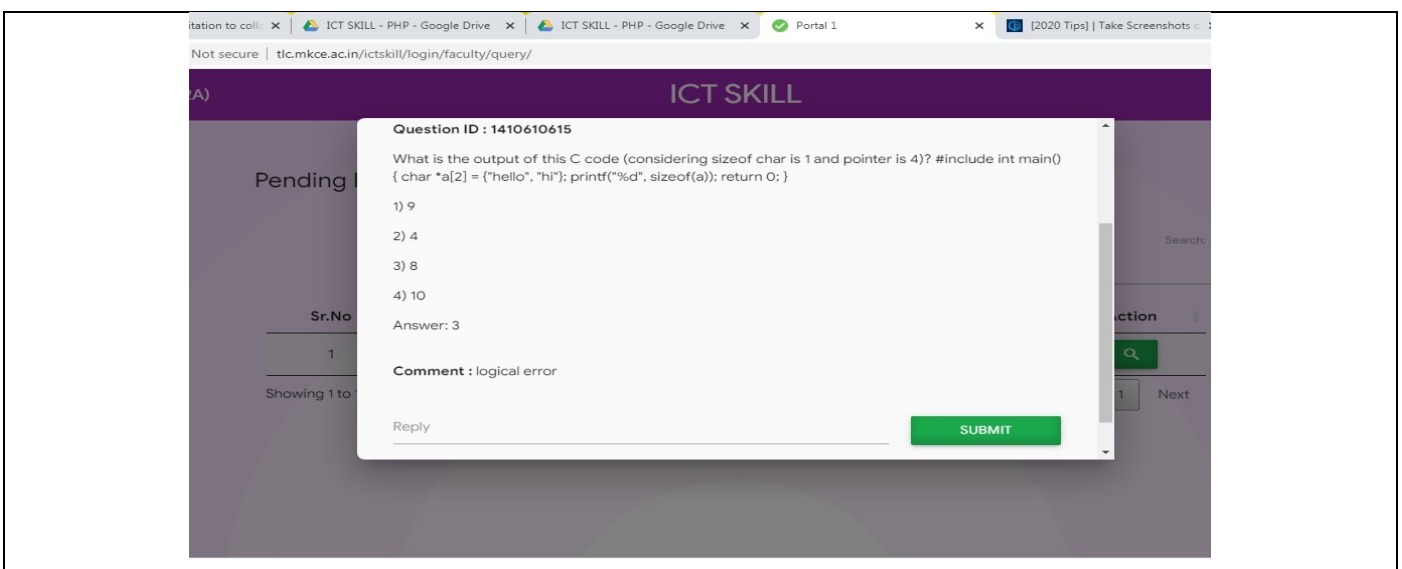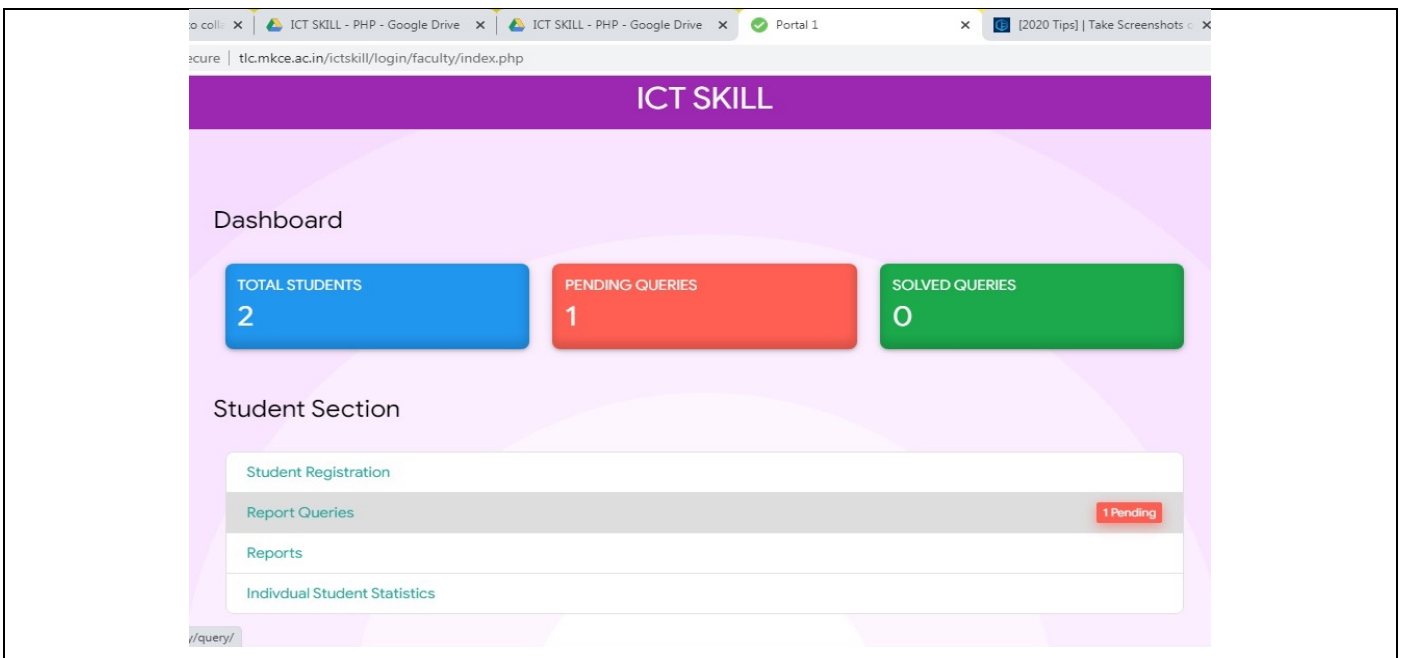
4.3 View Reports: Collect Class-wise, Department-wise and Student-wise Report

4.4 Edit Profile: If you want to change password, go to My Profile -> type new password -> Click Update button. Now password is updated successfully.
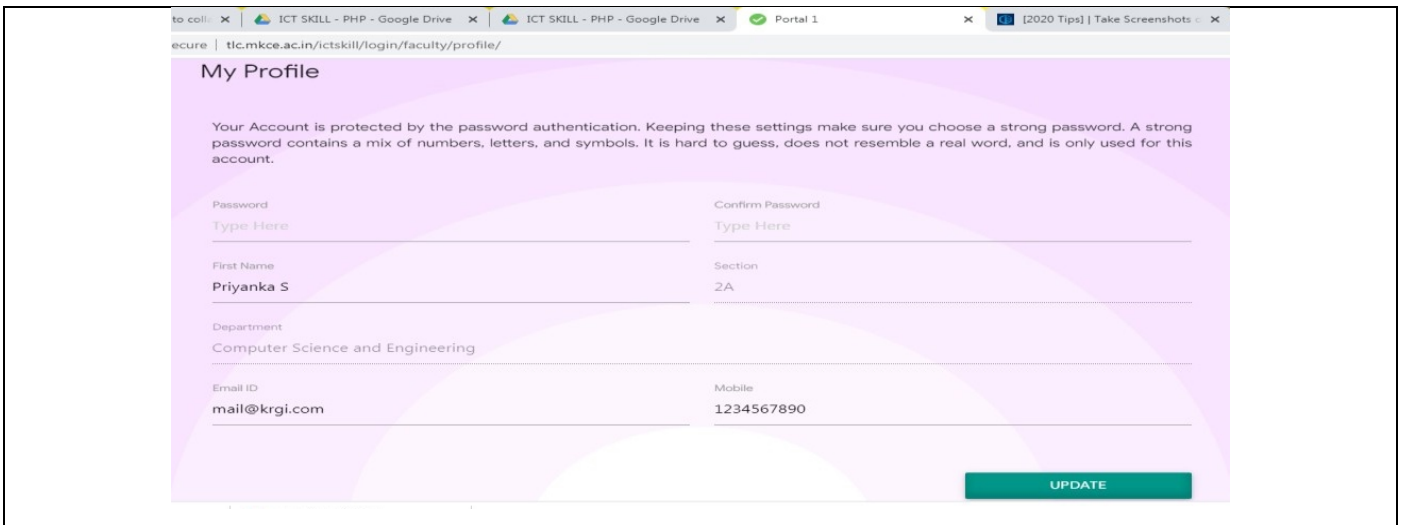
5. Student (Role)

View the attended Category, Topics, Test and Questions Count
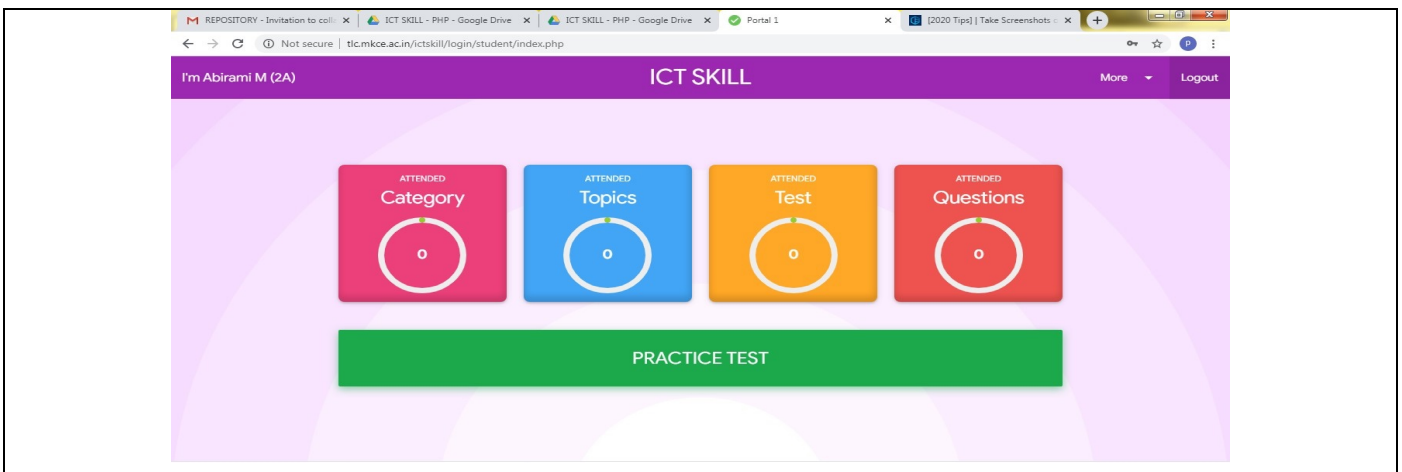
5.1 Practice Assessment / Test : Click PRACTICE TEST -> Choose type of level -> Choose Module -> then Category -> and then Topic -> finally Click START TEST

Question type	: MCQ
Question Level	: 1
Total Number of Questions	: 20
Time alloted	: 30 Minutes
Maximum Marks	: 20
Click on radio button to select / deselect your answer	✓
To complete the test, click on SUBMIT button	✓
Timer Enabled	✓
Test will be submitted automatically if time got expired	✓

Are you ready to practice test? [START TEST]

Take test.
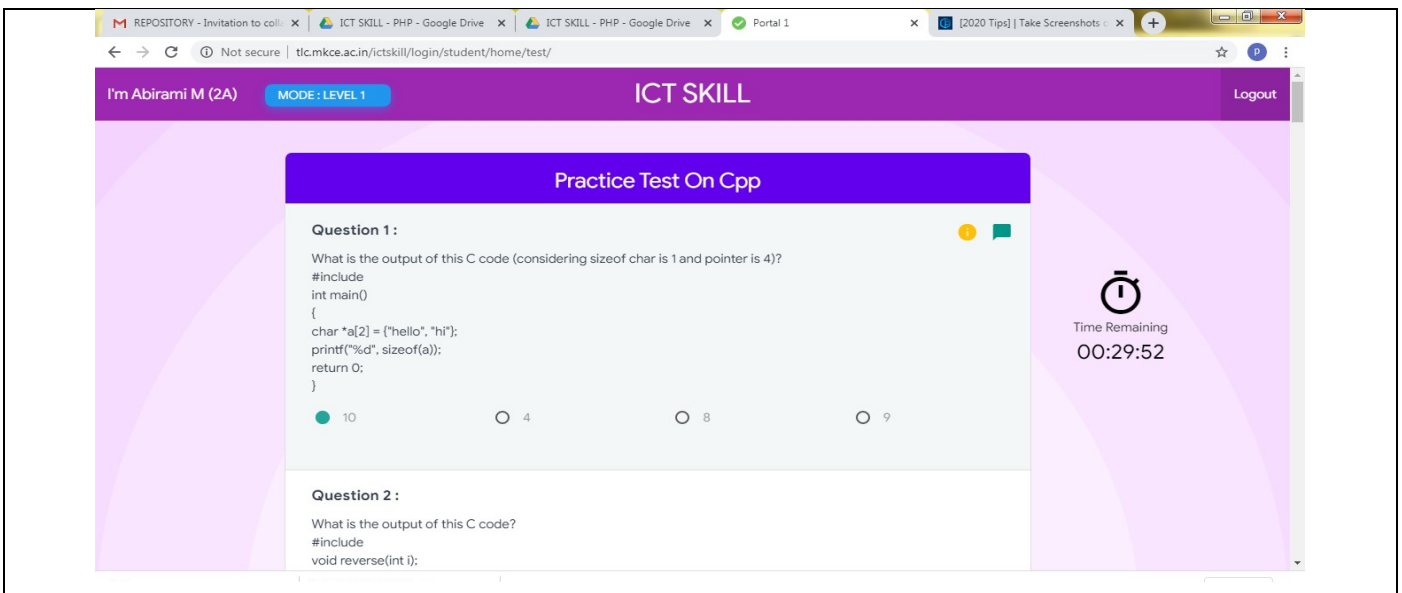
5.2 Report Query to Faculty : If you get doubt in-between the test, report queries to faculty

View the responses returned by faculty by clicking Home -> Report Issues

5.3 Edit Profile: If you want to change password, go to My Profile -> type new password -> Click Update button. Now password is updated successfully.

ICT Skill Question Count

1. CSE, IT

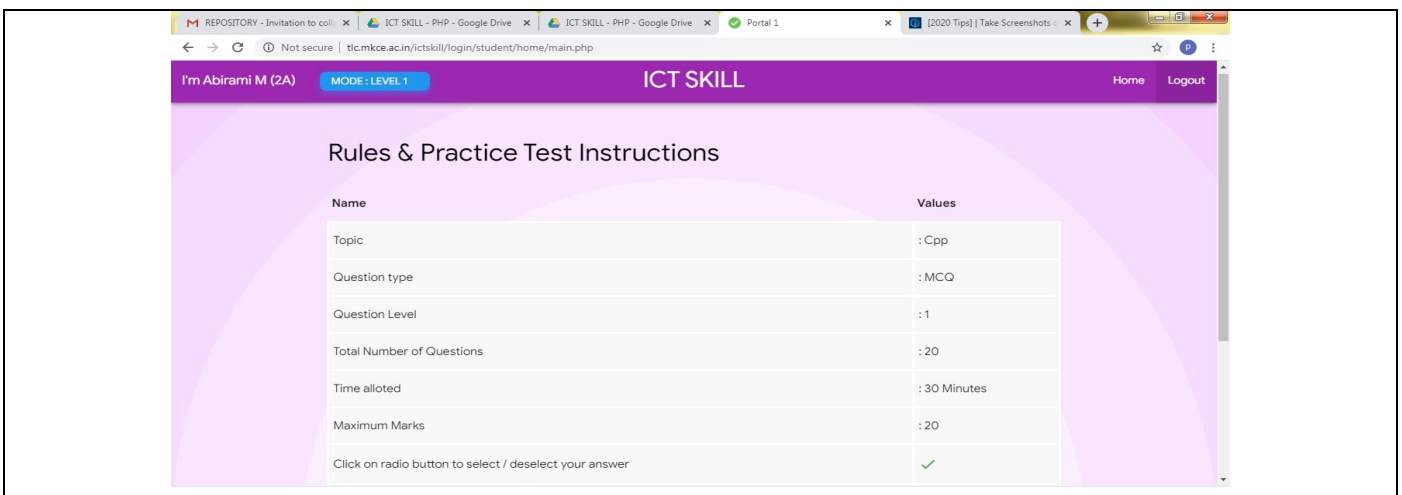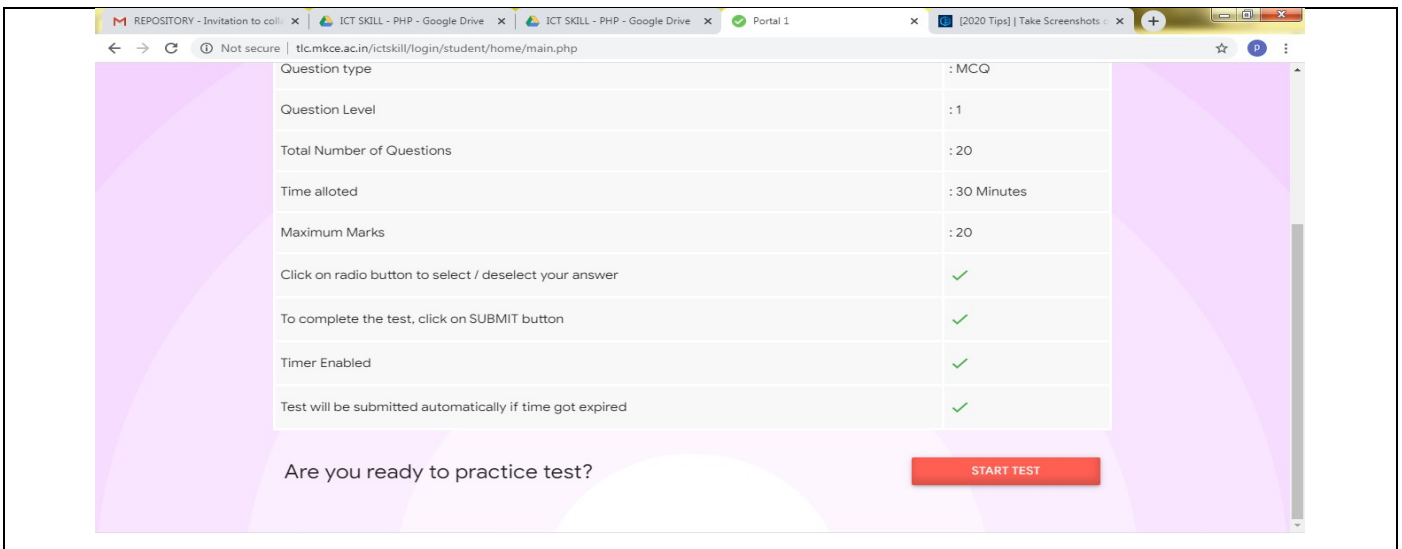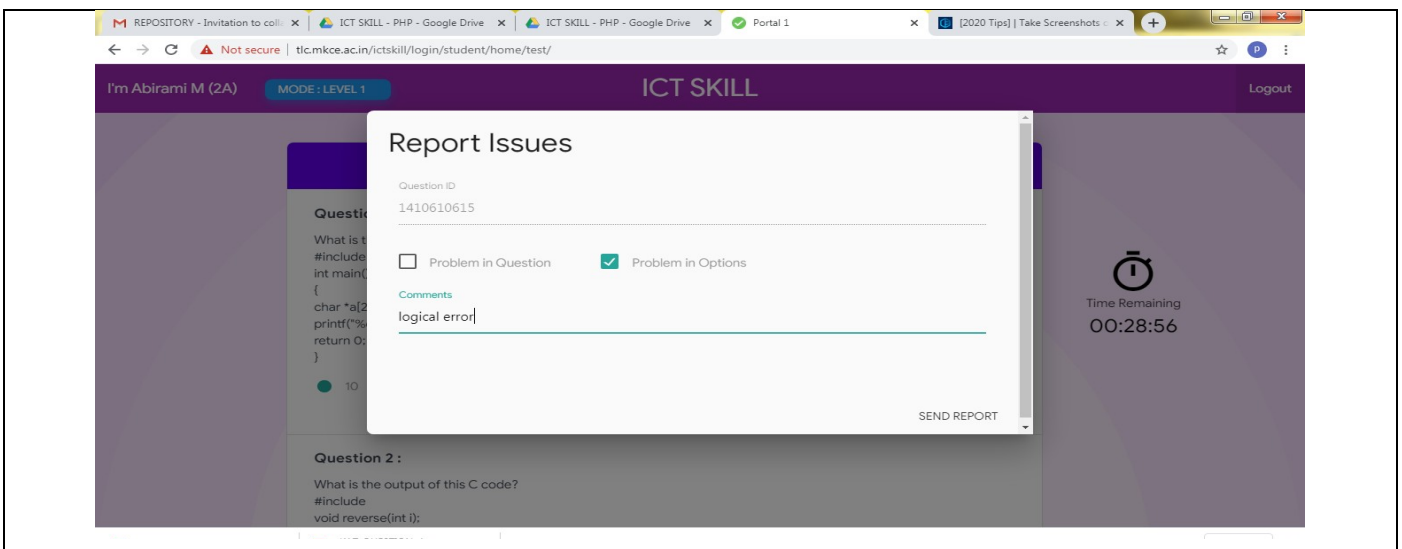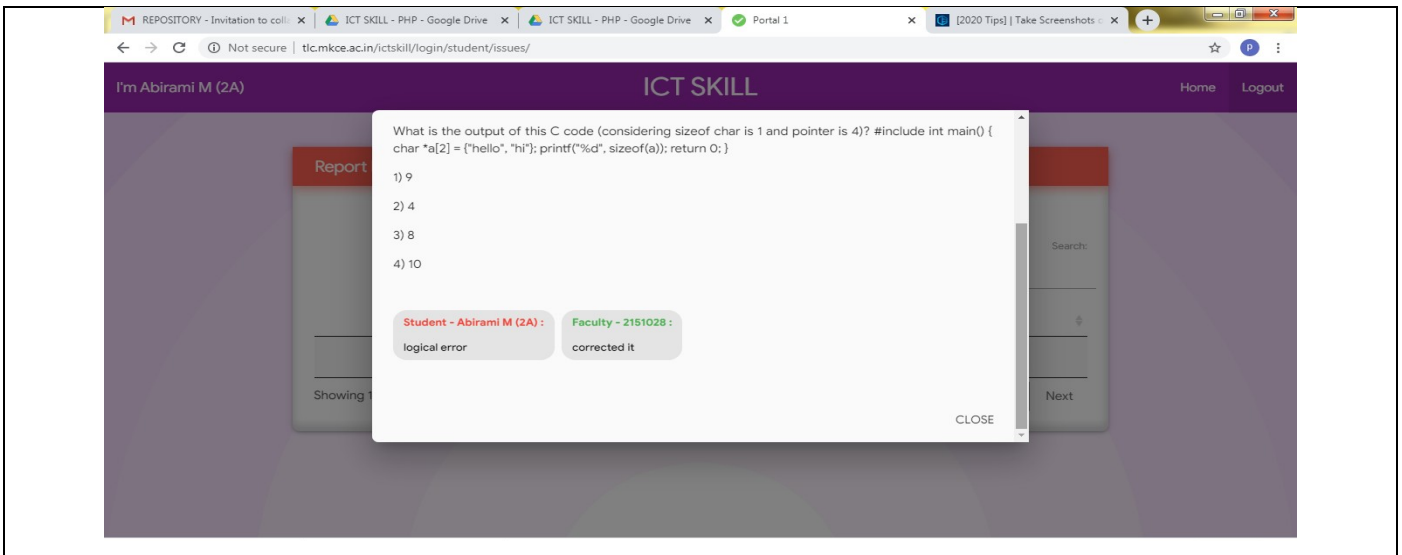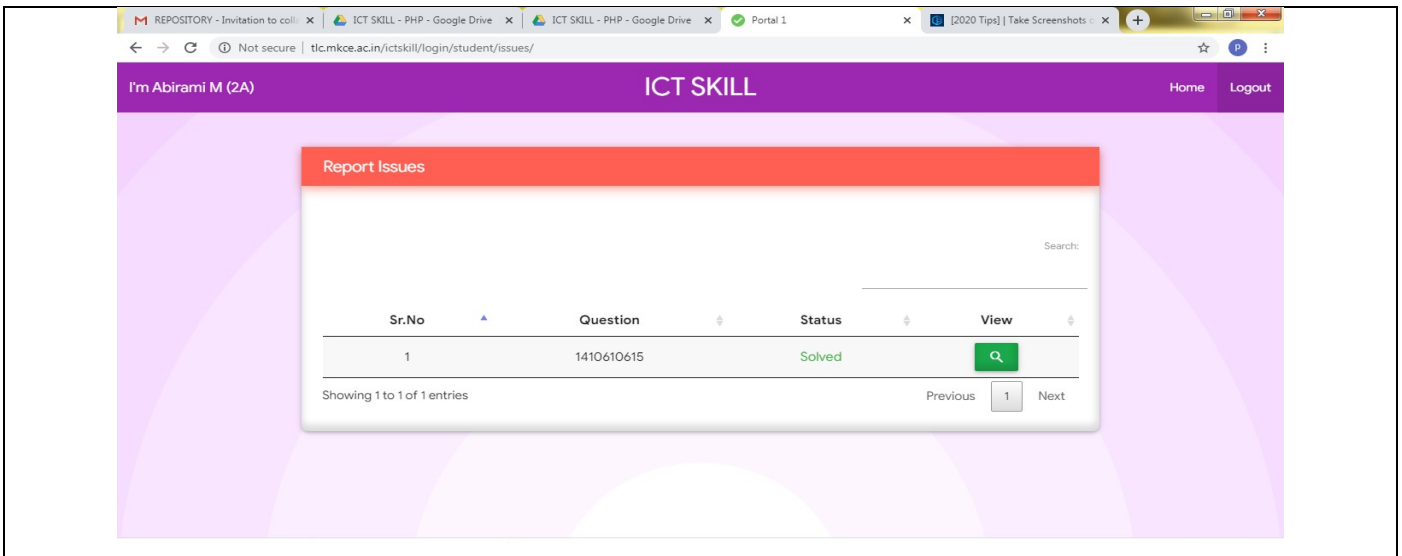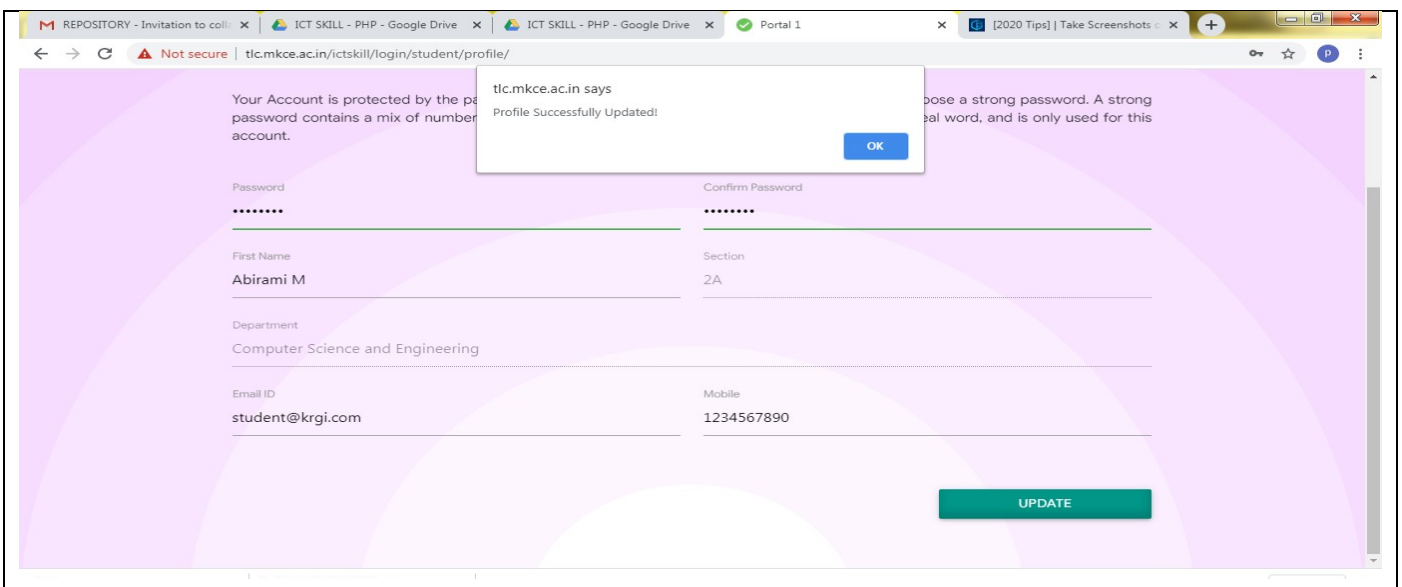| No	Title	No. of Questions
1.	Artificial Intelligence	766
2.	Automata Theory	728
3.	Computing	1502
4.	C Programming	1403
5.	C++ Programming	1848
6.	Computer Architecture	741
7.	Computer Networks	2561
8.	Computer Fundamentals	1004
9.	Computer Organization	765
10.	Computer Technology	1502
11.	Compiler Design	936
12.	Computer Graphics	186
13.	Cloud Computing	962
14.	C#	830
15.	CSS	560
16.	Cryptography and Network Security	1009
17.	Data Science	500
18.	Data Structures and Algorithms	946
19.	Data Base Management Systems	1430
20.	Discreet Mathematics	455
21.	Hadoop	993
22.	HTML	962
23.	IOT	1004
24.	Java	1566
25.	Java Script	837
26.	JUnit	477
27.	Linux	858
28.	LISP	255
29.	Mongo Database	993
30.	Microcontrollers	501
31.	Microprocessor	1003
32.	MYSQL	1244
33.	Neural Networks	351
34.	OOPS	1007
35.	Oracle	159
36.	Operating Systems	1667
37.	Python	1246
38.	Php	1144
39.	Relational Data Base Management	555
40.	R Language	450
41.	Ruby	200
42.	Storage Area Networks	286
43.	Semantic Web	535
44.	Software Architecture	969
45.	Software Engineering	1302
46.	Spring	721
47.	SQL	1208
48.	Unix	1153
	Total	44,280

2. EEE, ECE, EIE

No	Title	No. of Questions
1.	Analog Communication	762
2.	Analog Electronics	362
3.	Analytical Instruments	817
4.	Avionics	849
5.	Basic Electrical Eng.,	742
6.	Basic Electronics Eng.,	691
7.	Biomedical Instrumentation	846
8.	Control Systems	425
9.	DC Machines	495
10.	Digital Circuits	993
11.	Digital Communication	971
12.	Design of Electrical Machines	883
13.	Digital Image Processing	969
14.	Digital Logic Design	650
15.	Human Computer Interaction	163
16.	Electrical Machines	1095
17.	Electric Circuits	929
18.	Electromagnetic Theory	1364
19.	Electrical Measurements	725
20.	Electronic Devices	821
21.	Embedded Systems	967
22.	Instrumentation and transducers	849
23.	Linear Integrated Circuits	827
24.	Microcontroller	501
25.	Microprocessor	1003
26.	Microwave Engineering	681
27.	Optical Communication	865
28.	Network theory	778
29.	Power Electronics	753
30.	Power Systems	573
31.	Signals and Systems	387
32.	Transformers	309
33.	VHDL	456
34.	VLSI	1133
35.	Wireless and Mobile Networks	601
	Total	26,235

4. Civil Engineering

No	Title	No. of Questions
1.	Basic Civil Engineering	899
2.	Concrete Technology	1806
3.	Building Construction	889
4.	Design of Steel Structure	727
5.	Engineering Geology	889
6.	Environmental Science	1182
7.	Geotechnical Engineering	996
8.	Hazardous Waste Management	742
9.	Highway Engineering	930
10.	Structural Engineering	583
11.	Waste water Management	1434
	Total	11,077

3. Mechanical Engineering

No	Title	No. of Questions
1.	Advanced Machining	916
2.	Automobile Engineering	251
3.	Casting and Forming	1702
4.	Compressors	100
5.	Energy Engineering & Management	1781
6.	Engineering Drawing	1710
7.	Engineering Dynamics	100
8.	Engineering Materials	1019
9.	Engineering Mechanics	519
10.	Engineering Meteorology	1002
11.	Fluid Dynamics	1176
12.	Fluid Mechanics	1206
13.	Hear Transfer	2717
14.	Hydraulic Machines	1422
15.	Industrial Engineering	100
16.	Internal Combustion Engines	786
17.	Machine Design	731
18.	Machine Dynamics	314
19.	Machine Kinematics	796
20.	Machine Tools	797
21.	Machines	170
22.	Manufacturing Engineering	1921
23.	Manufacturing Science	1236
24.	Mass Transfer	1290
25.	Material Science	1264
26.	Mechanical Behavior	931
27.	Nuclear Power Engineering	117
28.	Petroleum Engineering	100
29.	Power Plant Engineering	1026
30.	Process and Control Engineering	100
31.	Process equipment & plant design	100
32.	Refractory technology	133
33.	Refrigeration	100
34.	Statistical Quality Control	727
35.	Steam Boiler Engines	100
36.	Steam Gas Turbine	860
37.	Stoichiometric	100
38.	Strength of Materials	1625
39.	Theory of Machines	341
40.	Thermodynamics	1142
41.	Workshop Technology	100
	Total	32,628

5. First Year Courses

No	Title	No. of Questions
1.	Engineering Chemistry	953
2.	Engineering Mathematics	628
3.	Engineering Physics	947
4.	Professional Communication	818
	Total	3,346

6. Chemical Engineering

No	Title	No. of Questions
1.	Chemical Engineering Basics	1048
2.	Chemical Plant Economics	100
3.	Chemical Process	1051
4.	Chemical Reaction Engineering	100
5.	Distillation Design	415
6.	Fertilizer Technology	100
7.	Fluidization	235
8.	Food Engineering	839
9.	Fuels and Combustion	100
10.	Furnace Technology	100
11.	Materials and Construction	100
12.	Mechanical Operations	572
13.	Organic Chemistry	960
14.	Petroleum Refinery Engineering	100
15.	Polymer Engineering	598
16.	Process Control & Instrumentation	100
17.	Process Equipment & Plant Design	100
18.	Pulp Paper	730
19.	Separation Biotech	905
20.	Stoichiometry	100
21.	Thermodynamics	1111
22.	Unit Process	817
	Total	10,281

7. MBA

No	Title	No. of Questions
1.	Accounting	100
2.	Banking Exams (IBPS, SBI)	114
3.	Basic Rules	357
4.	Business Statistics	576
5.	Business and Commerce	100
6.	Business Communication	100
7.	Business Management	100
8.	Cost Accounting	1083
9.	Costing	100
10.	eCommerce	100
11.	Economics	100
12.	Financial Management	100
13.	Financial Markets	538
14.	GST (Goods and Service Tax)	100
15.	HRM (Talent Management)	763
16.	HRM	100
17.	International Finance and Treasury	100
18.	Management Accounting	100
19.	Management Information System	100
20.	Marketing Management Research	873
21.	Marketing	100
22.	Operations Research	100
23.	Principles of Marketing	860
24.	Strategic Management	100
	Total	6,764

8. Aptitude

No	Title	No. of Questions
1.	Aptitude	2827
2.	English Verbal	3081
3.	Reasoning	1464
4.	Non-verbal	508
5.	Logical	447
	Total	8,327

9. ICT Programming Practice

No	Programming Courses	Level			Total
		L-1	L-2	L-3	
1.	C	1154	569	466	2189
2.	C++	729	233	298	1260
3.	Java	593	318	269	1180
4.	Data Structures and Algorithms	405	221	201	827
5.	Analysis & Design of Algorithms	321	167	166	654
6.	Python	413	122	-	535
7.	C sharp	291	-	-	291
8.	Ruby	221	-	-	221
9.	Haskell	100	-	-	100
10.	Operating Systems	112	-	-	112
11.	Lua	100	-	-	100
12.	R	221	-	-	221
13.	Octave	138	-	-	138
				Total	7,828

Total Questions

No	Disciplines	No. of Q & A
1	CSE, IT	44,280
2	EEE, ECE, EIE	26,235
3	Mechanical Engineering	32,628
4	Civil Engineering	11,077
5	First Year Courses	3,346
6	Chemical Engineering	10,281
7	MBA	6,674
8	Aptitude	8,327
9	ICT Programming Practice	7,828
	Total	1,50,676

Total Number of Questions : 1,50,676