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12F1 and 12F2

March 2022.

**Bonafide Certificate**

**Acknowledgement**

We thank the school management andour computer science teacher for helping us with this project. We also thank CBSE for giving us this opportunity to work on a project.

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**Program Analysis**

The project we are working on is aimed at creating an efficient method of generating and conducting MCQ Tests (for now, aimed at class 12 and PCM Alone). Provisions include: -

1.Mandatory registration for all teachers and students: Each student (of relevant class)/teacher will be made to register. While registering, the user will have to give relevant information.

2.Teacher input: Teacher can input questions in relevant fields based on subject, difficulty level etc.

3.Question bank system that can generate a question paper for the concerned exams/practice tests/quizzes. The questions can be added by the teachers and viewed by anyone with the student id. The questions will be segregated based on subject and difficulty level while adding, making it easier for the computer to store it in the concerned place and extract it whenever necessary. The test paper created will be formatted to have a fixed number of questions, 12 for now, ( efficient when there are a minimum of 100 questions registered per subject, but for the prototype, a lesser number of questions are taken in order to prove the algorithms efficacy ), chosen from easy, medium and difficult as per the format ( 6-easy 3-medium and 3-difficult). At the end of a test, the student should be able to view ANALYSIS.

4. Analysis: No. of questions answered correctly from a particular difficulty level, and from a particular subject.

**Purpose:** Practice Tests, General daily Class quizzes {would be a valid way of testing as the questions are sorted based on difficulty and the question paper would have a fixed format), Self-Analysis of Subject Preparedness.

**Table of significant variables, user defined functions along with the purpose and module names**

|  |  |
| --- | --- |
| **Global Variable** | **Purpose** |
| mycon | Connector to the login details MySQL database |
| mycurs | Cursor for mycon for accessing ‘student’ table |
| sdata | Contains student login credentials |
| mycurt | Cursor for mycon for accessing ‘teacher’ table |
| tdata | Contains teacher login credentials |
| op | Variable driving the student and teacher side menus |
| f,qbfile | CSV file containing Question Bank |
| r,reader | Reader object for the question bank file |
| qid | unique question ID generated when question is being added. |
| sub | Temporary variable that stores subject of the particular question added |
| q | Temporary variable storing the question |
| op1,op2,op3,op4 | Temporary variables for storing options |
| correct | Temporary variable that stores the correct option |
| diff | Temporary variable that stores difficulty |
| w | Writer object of Question bank file |
| l | List used to dump new records into the csv file. Also used to remove certain records. |
| enteredoplist | List containing options entered by student |
| eqmathlist | List of all easy math questions from question bank |
| eqphylist | List of all easy physics questions from question bank |
| eqchemlist | List of all easy chemistry questions from question bank |
| mqlist | List of all moderate questions in question bank |
| hqlist | List of all hard questions in question bank |
| anslist | List of all correct options for randomly generated questions. |
| marklist | List of marks obtained per question in the test |
| easyq | List with 6 randomly selected easy questions, consisting of 2 questions from each subject. |
| modq | List with 3 randomly selected moderate questions. |
| hardq | List with 3 randomly selected hard questions. |
| qpaper | Final list of randomly generated questions from question bank (easyq+modq+hardq) |

|  |  |
| --- | --- |
| **Functions / Modules** | **Purpose** |
| starting() | UDF for Login and register |
| teacher() | UDF for accessing Teacher Menu |
| student() | UDF for accessing Student Menu |
| add() | UDF for adding questions to question bank |
| view() | UDF for viewing important parts of entire question bank |
| delete() | UDF for deleting a question based on qid |
| test() | UDF for generating and taking up test, with analysis |
| Quadd | Module for teacher menu (add, view and delete) |
| MAINPAGE | Module for accessing teacher menu/student menu |
| testpg | Module for accessing test from student menu |

**Files / Databases / Tables Used**

**Question Bank.csv**

1,Physics,Sensitivity of moving coil galvanometer depends on,A)number of turns in coil,B)magnetic field,C)area of the coil,D)All of the above,D,Easy

2,Physics,"Lines of force ,due to the earths horizontal magnetic field are",A)elliptical,B)curved lines,C)concentric circles,D)parallel and straight,D,Hard

3,Physics,"A wire of radius r has resistance R. If it is stretched to r/2 radius, the resistance becomes",A)2R,B)4R,C)16R,D)zero,C,Moderate

4,Physics,"4 capacitors are connected in parallel to give effective C. If they are connected in series, the effective capacitance is ?",A)C/4,B)C/16,C)C,D)16C,B,Moderate

5,Physics,In Lenz law there is conservation of,A)charge,B)momentum,C)energy,D)current,C,Easy

6,Physics,A charged particle is free to move in and electric field. It will travel,A)always along a line of force,B)along a line of force if its initial velocity is zero,"C)along a line of force, if it has same initial velocity in the direction of an active angle with the line of force",D)none of the above,B,Moderate

7,Physics,What is the nature of guassian surface involved in Guass' laws of electrostatics,A)Scalar,B)Electrical,C)Magnetic,D)Vector,D,Easy

8,Physics,"When the charge on the body becomes half, the electric field becomes",A)Half,B)twice,C)no change,D)thrice,A,Easy

9,Physics,What is the angle between the electric field strength and dipole moment due to it on the equatorial line ?,A)0 degrees,B)90 degrees,C)180 degrees,D)None of the above,C,Easy

10,Physics,Which of the following charecteristics of electrons determines the current in a conductor?,A)drift velocity alone,B)Thermal Velocity alone,C)Both Drift Velocity and Thermal Velocity,D)neither Vd nor Thermal Velocity,A,Hard

11,Chemistry,Which of the following natural amino acids is optically inactive?,A)Leucine,B)Glycine,C)Metheonine,D)Lysine,B,Easy

12,Chemistry,Fibrous proteins are,A)Not soluble in water,B)Held by hydrogen bonds,C)Held by disulphide bonds,D)All of the above,D,Moderate

13,Chemistry,"If more than one elimination is possible, the more substituted alkene is preferred. What rule is this?",A)Saytzeff,B)Markovnikov,C)Hammonds,D)none of the above,A,Easy

14,Chemistry,Which is least acidic?,A)o-cresol,B)m-cresol,C)p-cresol,D)ethanol,D,Moderate

15,Chemistry,What is the class of the main product in nucleophilic substitution reaction with KCN as reagent ?,A)isonitrile,B)Cyanide,C)Alkyl Nitrite,D)Nitroalkane,B,Hard

16,Chemistry,The vacant space in BCC lattice cell is,A)26%,B)48%,C)23%,D)32%,D,Hard

17,Chemistry,Cations are present in the interstitial sites in,A)Frenkel Defect,B)Schottky defect,C)vacancy defect,D)metal deficiency defect,A,Moderate

18,Chemistry,Iodine molecules are held in the crystal lattice by,A)london forces,B)dipole-dipole,C)covalent bonds,D)coulombic forces,A,Moderate

19,Chemistry,"Raoult's law becomes a special case of Henry's Law when,",A)kH=p10,B)kH<p10,C)kH>p10,D)kH=1,A,Easy

20,Chemistry,Which of the following bases is not present in DNA,A)Adenine,B)Uracil,C)Thymine,D)Cytosine,B,Easy

21,Mathematics,Cos^-1(4/5)+cos^-1(12/13)=cos^-1(y). Then y=,A)63/65,B)33/65,C)65/33,D)35/65,B,Hard

22,Mathematics,"If A is a 3X4 matrix and B is a matrix such that A'B and BA' are both defined, order of B?",A)3X4,B)3X3,C)4X4,D)4X3,A,Easy

23,Mathematics,The number of possible matrices of order 3X3 with each entry 4 or 5 is,A)9,B)27,C)81,D)512,D,Moderate

24,Mathematics,"If A is a square matrix of order 3, |A|=3, |adj(adj(A))|=",A)81,B)27,C)3,D)243,A,Moderate

25,Mathematics,The function y=|x-4| is not differentiable at x=,A)0,B)4,C)-4,D)1,B,Easy

26,Mathematics,The function f(x)=1/x on R is,A)one-one,B)not defined,C)onto,D)one-one and onto,B,Moderate

27,Mathematics,"f:X->Y in onto, if and only if",A)range of f=Y,B)domain of f=X,C)Domain of f=Range of f,D)None of the above,A,Easy

28,Mathematics,"if tan-1(3/4)=A, then cosA=3/5",A)True,B)False,C)Can't say,D)Partially True,B,Moderate

29,Mathematics,"If a matrix has 18 elements,then the possible number of its possible order is",A)2,B)4,C)6,D)8,C,Moderate

30,Mathematics,Which of the following is incorrect for a matrix A?,A)inv(inv(A))=A,B)inv(AB)=(inv(B))(inv(A)),C)Both A and B,D)None of the above,D,Easy

**DATABASE: prototest**

**Table: student**

+-----------+----------+

| loginid | password |

+-----------+----------+

| keshav | 12011 |

| mason19 | 19191 |

| masonm | 19190 |

| pulisic10 | 10101 |

+-----------+----------+

**Table: teacher**

select \* from teacher;

+---------+----------+

| loginid | password |

+---------+----------+

| PRT | 0 |

| T1 | 90987 |

+---------+----------+

**Source Code**

**Loginregister.py**

import Qadd

import MAINPAGE

import testpg

import mysql.connector as ms

mycon=ms.connect(host="localhost",user="root",passwd="keshav1211",database="prototest")

mycurs=mycon.cursor()

mycurs.execute("select \* from student")

sdata=mycurs.fetchall()

mycurt=mycon.cursor()

mycurt.execute("select \* from teacher")

tdata=mycurt.fetchall()

print('''WELCOME TO PROTOtest.

If this is your first time here , enter REGISTER

Already signed up , enter LOGIN ''')

def starting():

firsttime=input()

if firsttime.lower()=='register':

loginid=input('Enter your login id (only 10 characters at max) ')

sort=input('Enter if you are a teacher or a student ')

pw=int(input('''Enter 5 digit password (Make sure to not forget)'''))

if sort.lower()=='student':

mycurs.execute("insert into student values('{0}','{1}')".format(loginid,pw))

mycon.commit()

elif sort.lower()=='teacher':

mycurt.execute("insert into teacher values('{0}','{1}')".format(loginid,pw))

mycon.commit()

print('You have successfully registered.')

print('Enter \'login\' to proceed.')

starting()

elif firsttime.lower()=='login':

checklogin=input('please enter your id')

checkpw=int(input('enter your password'))

r=[]

r1=[]

for row in sdata:

r.append(row)

for t in tdata:

r1.append(t)

for i in r:

if len(i)!=0:

if i[0]==checklogin:

if i[1]==checkpw:

print('Student Page')

MAINPAGE.student()#expand

break

else:

print('Please check your password')

for k in r1:

if len(k)!=0:

if k[0]==checklogin:

if k[1]==checkpw:

print('Teacher Page')#expand

MAINPAGE.teacher()

break

else:

print('Please check your password ')

starting()

**MAINPAGE.PY:**

import csv

import Qadd

import testpg

#Teacher-Side window

def teacher():

while True:

op=int(input('''Welcome to PROTOtest,

TEACHER MENU

CHOOSE WHAT YOU WOULD LIKE TO DO

1.ADD A QUESTION

2.VIEW THE QUESTION BANK (RECOMMENDED BEFORE REMOVING A QUESTION)

3.DELETE A QUESTION

4.EXIT'''))

if op==1 or op==2 or op==3 or op==4:

if op==1:

Qadd.add()

if op==2:

Qadd.view()

if op==3:

Qadd.delete()

if op==4:

print("Have a nice day :)")

break

else:

print("Pls enter a valid option")

continue

#Student-Side window

def student():

while True:

op=input('''Welcome to PROTOtest,

TEST Yourself in JEE Concepts right away!

Type PROTOTEST to take up a test now!!!!

Type EXIT if you want to Exit page''')

if op=='PROTOTEST':

testpg.test()

elif op.upper()=="EXIT":

print("Have a nice day :)")

break

else:

print("Make sure you type the exact letters 'PROTOTEST'(case sensitive) if you wanted to take up a test")

Continue

**Quadd.py**

import csv

def add():

f=open("Question Bank.csv","r",newline='')

r=csv.reader(f)

l=[]

for i in r:

l.append(i)

qid=eval(i[0]+"+1")

f.close()

f=open("Question Bank.csv","w",newline='')

w=csv.writer(f)

n=int(input("Enter number of questions to be added :"))

for i in range(n):

sub=input("Enter Subject [Physics,Chemistry,Math] :")

q=input("Enter the question in detail :")

op1=input("Enter option A (LABEL OPTION AS A) WHILE ENTERING):")

op2=input("Enter option B (LABEL OPTION AS B) WHILE ENTERING):")

op3=input("Enter option C (LABEL OPTION AS C) WHILE ENTERING):")

op4=input("Enter option D (LABEL OPTION AS D) WHILE ENTERING):")

correct=input("Enter the correct option (A/B/C/D) :")

diff=input("Enter difficulty according to your judgement (\"Easy\",\"Hard\",\"Moderate\") :")

print(qid,"IS THE Q.ID OF THE QUESTION")

l.append([qid,sub,q,op1,op2,op3,op4,correct,diff])

qid=qid+1

w.writerows(l)

print("<<<<< Successfully added",n,"question(s) :) >>>>>")

f.close()

def view():

f=open("Question Bank.csv",'r',newline='')

r=csv.reader(f)

print("Question Bank")

print("%10s"%"Q.ID","%15s"%"Subject","%40s"%"Question","%15s"%"Difficulty")

print("="\*100)

for i in r:

print("%10s"%i[0],"%15s"%i[1],"%40s"%i[2][:30:]

+"...","%10s"%i[8])

f.close()

def delete():

f=open("Question Bank.csv",'r',newline='')

r=csv.reader(f)

l=[]

for i in r:

l.append(i)

id=int(input("Enter Q.ID of question to be removed :"))

k=0

for j in l:

if j[0]==str(id):

l.remove(j)

k=k+1

if k==0:

print("The entered QID doesnt exist")

f.close()

f=open("Question Bank.csv",'w',newline='')

w=csv.writer(f)

w.writerows(l)

print("<<<< Question Successfully Removed >>>>")

f.close()

**testpg.py**

def test():

import csv

import random

qbfile=open("Question Bank.csv",'r',newline='')

reader=csv.reader(qbfile)

enteredoplist=[]

eqmathlist=[]

eqphylist=[]

eqchemlist=[]

mqlist=[]

hqlist=[]

anslist=[]

marklist=[]

for row in reader:

if row[8].lower()=="easy" and (row[1].lower()=="mathematics" or row[1].lower()=="maths" or row[1].lower()=="math"):

eqmathlist.append([row[1],row[2],row[3],row[4],row[5],row[6],row[7],row[8]])

elif row[8].lower()=="easy" and row[1].lower()=="physics":

eqphylist.append([row[1],row[2],row[3],row[4],row[5],row[6],row[7],row[8]])

elif row[8].lower()=="easy" and row[1].lower()=="chemistry":

eqchemlist.append([row[1],row[2],row[3],row[4],row[5],row[6],row[7],row[8]])

elif row[8].lower()=="moderate":

mqlist.append([row[1],row[2],row[3],row[4],row[5],row[6],row[7],row[8]])

elif row[8].lower()=="hard":

hqlist.append([row[1],row[2],row[3],row[4],row[5],row[6],row[7],row[8]])

easyq=random.sample(eqmathlist,2)+random.sample(eqphylist,2)+random.sample(eqchemlist,2)#random questions chosen from easy list

modq=random.sample(mqlist,3)#random questions chosen from moderate list

hardq=random.sample(hqlist,3)#random questions chosen from hard list

qpaper=easyq+modq+hardq #list containing all the questions in the test

print("TEST")

print('''TEST INSTRUCTIONS:

1.The test contains 12 MCQs each of 1 mark.

2.THERE IS NO NEGATIVE MARKING

3.Questions (1-6) are rated easy by the teacher

4.Questions (7-9) are rated moderate by the teacher

5.Question (10-12) are rated hard by the teacher

6.Type only the option letter (A/B/C/D) in the appropriate place for answering and click enter.You will have to attempt questions one by one only.

7.After moving on from a question, it wont be possible to return and change the answer.

8.After entering answer, do check if the answer is valid before pressing enter for the next question, invalid answers will be rendered null and are given 0 marks

ALL THE BEST :)''')

start=input("press ENTER when ready to start the test")

for i in qpaper:

print(str(qpaper.index(i)+1)+".",i[1])

print(i[2],i[3],i[4],i[5],sep="\n")

attempt=input("Enter an appropriate option(A/B/C/D) :")

if attempt.upper() not in "ABCD":

print("Valid option not entered no marks given for the question")

enteredoplist.append(attempt)

anslist.append(i[6])

#test analysis

for i in range(len(enteredoplist)):

if enteredoplist[i].upper()==anslist[i].upper():

marklist.append(1)

else:

marklist.append(0)

easycorrect=0

modcorrect=0

hardcorrect=0

phycorrect=0

chemcorrect=0

mathcorrect=0

totalphy=0

totalmath=0

totalchem=0

for i in qpaper:

if i[7].lower()=="easy":

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

easycorrect=easycorrect+1

elif i[7].lower()=="moderate":

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

modcorrect=modcorrect+1

elif i[7].lower()=="hard":

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

hardcorrect=hardcorrect+1

if i[0].lower()=="physics":

totalphy=totalphy+1

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

phycorrect=phycorrect+1

elif i[0].lower()=="chemistry":

totalchem=totalchem+1

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

chemcorrect=chemcorrect+1

elif i[0].lower()=="mathematics" or i[0].lower()=="math" or i[0].lower()=="maths":

totalmath=totalmath+1

if enteredoplist[qpaper.index(i)]==anslist[qpaper.index(i)]:

mathcorrect=mathcorrect+1

print("%15s"%"Your Answer","%15s"%"Correct Answer","%15s"%"Marks Obtained")

print("="\*60)

for i in range(len(enteredoplist)):

print("%15s"%enteredoplist[i],"%15s"%anslist[i],"%15s"%marklist[i])

total=(sum(marklist)/len(marklist))\*100

print("Total :",total,"%")

print("DIFFICULTY WISE ANALYSIS")

print("Number of easy questions answered correctly (out of 6) :",easycorrect)

print("Number of moderate questions answered correctly (out of 3):",modcorrect)

print("Number of hard questions answered correctly (out of 3):",hardcorrect)

print("SUBJECT WISE ANALYSIS")

print("Physics :",phycorrect/totalphy\*100,"%")

print("Chemistry :",chemcorrect/totalchem\*100,"%")

print("Mathematics :",mathcorrect/totalmath\*100,"%")

exit=input("PRESS ENTER TO LEAVE PAGE")

qbfile.close()

**Sample Output**

**STUDENT LOGIN SAMPLE**

WELCOME TO PROTOtest.

If this is your first time here , enter REGISTER

Already signed up , enter LOGIN

login

please enter your idkeshav

enter your password12011

Student Page

Welcome to PROTOtest,

TEST Yourself in JEE Concepts right away!

Type PROTOTEST to take up a test now!!!!

Type EXIT if you want to Exit pagePROTOTEST

TEST

TEST INSTRUCTIONS:

1.The test contains 12 MCQs each of 1 mark.

2.THERE IS NO NEGATIVE MARKING

3.Questions (1-6) are rated easy by the teacher

4.Questions (7-9) are rated moderate by the teacher

5.Question (10-12) are rated hard by the teacher

6.Type only the option letter (A/B/C/D) in the appropriate place for answering and click enter.You will have to attempt questions one by one only.

7.After moving on from a question, it wont be possible to return and change the answer.

8.After entering answer, do check if the answer is valid before pressing enter for the next question, invalid answers will be rendered null and are given 0 marks

ALL THE BEST :)

press ENTER when ready to start the test

1. The function y=|x-4| is not differentiable at x=

A)0

B)4

C)-4

D)1

Enter an appropriate option(A/B/C/D) :B

2. If A is a 3X4 matrix and B is a matrix such that A'B and BA' are both defined, order of B?

A)3X4

B)3X3

C)4X4

D)4X3

Enter an appropriate option(A/B/C/D) :A

3. Sensitivity of moving coil galvanometer depends on

A)number of turns in coil

B)magnetic field

C)area of the coil

D)All of the above

Enter an appropriate option(A/B/C/D) :D

4. What is the angle between the electric field strength and dipole moment due to it on the equatorial line ?

A)0 degrees

B)90 degrees

C)180 degrees

D)None of the above

Enter an appropriate option(A/B/C/D) :A

5. Raoult's law becomes a special case of Henry's Law when,

A)kH=p10

B)kH<p10

C)kH>p10

D)kH=1

Enter an appropriate option(A/B/C/D) :A

6. Which of the following natural amino acids is optically inactive?

A)Leucine

B)Glycine

C)Metheonine

D)Lysine

Enter an appropriate option(A/B/C/D) :B

7. Which is least acidic?

A)o-cresol

B)m-cresol

C)p-cresol

D)ethanol

Enter an appropriate option(A/B/C/D) :D

8. Iodine molecules are held in the crystal lattice by

A)london forces

B)dipole-dipole

C)covalent bonds

D)coulombic forces

Enter an appropriate option(A/B/C/D) :C

9. 4 capacitors are connected in parallel to give effective C. If they are connected in series, the effective capacitance is ?

A)C/4

B)C/16

C)C

D)16C

Enter an appropriate option(A/B/C/D) :A

10. Cos^-1(4/5)+cos^-1(12/13)=cos^-1(y). Then y=

A)63/65

B)33/65

C)65/33

D)35/65

Enter an appropriate option(A/B/C/D) :A

11. The vacant space in BCC lattice cell is

A)26%

B)48%

C)23%

D)32%

Enter an appropriate option(A/B/C/D) :B

12. Which of the following charecteristics of electrons determines the current in a conductor?

A)drift velocity alone

B)Thermal Velocity alone

C)Both Drift Velocity and Thermal Velocity

D)neither Vd nor Thermal Velocity

Enter an appropriate option(A/B/C/D) :C

Your Answer Correct Answer Marks Obtained

============================================================

B B 1

A A 1

D D 1

A C 0

A A 1

B B 1

D D 1

C A 0

A B 0

A B 0

B D 0

C A 0

Total : 50.0 %

DIFFICULTY WISE ANALYSIS

Number of easy questions answered correctly (out of 6) : 5

Number of moderate questions answered correctly (out of 3): 1

Number of hard questions answered correctly (out of 3): 0

SUBJECT WISE ANALYSIS

Physics : 25.0 %

Chemistry : 60.0 %

Mathematics : 66.66666666666666 %

PRESS ENTER TO LEAVE PAGE

Welcome to PROTOtest,

TEST Yourself in JEE Concepts right away!

Type PROTOTEST to take up a test now!!!!

Type EXIT if you want to Exit pageEXIT

Have a nice day :)

**TEACHER LOGIN SAMPLE**

WELCOME TO PROTOtest.

If this is your first time here , enter REGISTER

Already signed up , enter LOGIN

login

please enter your idPRT

enter your password0

Teacher Page

Welcome to PROTOtest,

TEACHER MENU

CHOOSE WHAT YOU WOULD LIKE TO DO

1.ADD A QUESTION

2.VIEW THE QUESTION BANK (RECOMMENDED BEFORE REMOVING A QUESTION)

3.DELETE A QUESTION

4.EXIT1

Enter number of questions to be added :1

Enter Subject [Physics,Chemistry,Math] :Physics

Enter the question in detail :Which of the following is true?

Enter option A (LABEL OPTION AS A) WHILE ENTERING):A)SAMPLE OPTION A

Enter option B (LABEL OPTION AS B) WHILE ENTERING):B)B

Enter option C (LABEL OPTION AS C) WHILE ENTERING):C)C

Enter option D (LABEL OPTION AS D) WHILE ENTERING):D)D

Enter the correct option (A/B/C/D) :A

Enter difficulty according to your judgement ("Easy","Hard","Moderate") :Hard

31 IS THE Q.ID OF THE QUESTION

<<<<< Successfully added 1 question(s) :) >>>>>

Welcome to PROTOtest,

TEACHER MENU

CHOOSE WHAT YOU WOULD LIKE TO DO

1.ADD A QUESTION

2.VIEW THE QUESTION BANK (RECOMMENDED BEFORE REMOVING A QUESTION)

3.DELETE A QUESTION

4.EXIT2

Question Bank

Q.ID Subject Question Difficulty

====================================================================================================

1 Physics Sensitivity of moving coil gal... Easy

2 Physics Lines of force ,due to the ear... Hard

3 Physics A wire of radius r has resista... Moderate

4 Physics 4 capacitors are connected in ... Moderate

5 Physics In Lenz law there is conservat... Easy

6 Physics A charged particle is free to ... Moderate

7 Physics What is the nature of guassian... Easy

8 Physics When the charge on the body be... Easy

9 Physics What is the angle between the ... Easy

10 Physics Which of the following charect... Hard

11 Chemistry Which of the following natural... Easy

12 Chemistry Fibrous proteins are... Moderate

13 Chemistry If more than one elimination i... Easy

14 Chemistry Which is least acidic?... Moderate

15 Chemistry What is the class of the main ... Hard

16 Chemistry The vacant space in BCC lattic... Hard

17 Chemistry Cations are present in the int... Moderate

18 Chemistry Iodine molecules are held in t... Moderate

19 Chemistry Raoult's law becomes a special... Easy

20 Chemistry Which of the following bases i... Easy

21 Mathematics Cos^-1(4/5)+cos^-1(12/13)=cos^... Hard

22 Mathematics If A is a 3X4 matrix and B is ... Easy

23 Mathematics The number of possible matrice... Moderate

24 Mathematics If A is a square matrix of ord... Moderate

25 Mathematics The function y=|x-4| is not di... Easy

26 Mathematics The function f(x)=1/x on R is... Moderate

27 Mathematics f:X->Y in onto, if and only if... Easy

28 Mathematics if tan-1(3/4)=A, then cosA=3/5... Moderate

29 Mathematics If a matrix has 18 elements,th... Moderate

30 Mathematics Which of the following is inco... Easy

31 Physics Which of the following is true... Hard

Welcome to PROTOtest,

TEACHER MENU

CHOOSE WHAT YOU WOULD LIKE TO DO

1.ADD A QUESTION

2.VIEW THE QUESTION BANK (RECOMMENDED BEFORE REMOVING A QUESTION)

3.DELETE A QUESTION

4.EXIT3

Enter Q.ID of question to be removed :31

<<<< Question Successfully Removed >>>>

Welcome to PROTOtest,

TEACHER MENU

CHOOSE WHAT YOU WOULD LIKE TO DO

1.ADD A QUESTION

2.VIEW THE QUESTION BANK (RECOMMENDED BEFORE REMOVING A QUESTION)

3.DELETE A QUESTION

4.EXIT4

Have a nice day :)

**Scope of the Project**

* Analysis can be more detailed with the help of graphs and the marks obtained in the test can be stored into the respective records in student table. This way, students can compare their performances with their past performances.
* With GUI the test taking can be more efficient, with the ability to edit an entered option, limited duration for taking up a test etc. GUI can make the application more user friendly.
* Options for more specific and curated tests can be added. Longer tests with different subject and topic specifications can be added.
* Services can be expanded to other grades as well.
* A separate test consisting of previous errors can be created for learning purposes.
* A student who has attempted a question (ID-07 for example) correctly, should not receive that question again in future tests.

The project can be developed and upgraded using the above prompts as guidelines.

**Limitations**

* It is difficult to edit an input and one has to go about deleting (in case of an added question) the record and adding the corrected one again.
* The question bank has only 30 questions as of now. As more and more questions are added, the randomisation becomes more efficient.
* The difficulty rating is decided only based on the teachers discretion and therefore may not be tailored to a particular student's abilities. The difficulty rating is highly subjective and debateable.
* There is no time limit (as of now). A student's preparedness can be truly gauged only if they are able to perform well under a time constraint.
* Students cannot pick the topic or subject they want to be tested on.

**Bibliography**

* + CLASS 12 COMPUTER SCIENCE WITH PYTHON-PREETI ARORA
  + CLASS 11 COMPUTER SCIENCE WITH PYTHON-PREETI ARORA