MID-Term Questions

Premier University, Chattogram
Department of CSE
Midterm Examination, November 2018
2nd Semester
Course Title: Developing English Skills (ENG-104) Full Marks:40

Time: 1.00 hour

Read the passage below and answer the following questions:

The phone rang on Dr Aliya's desk.
"Hello", she said, picking up the phone."Dr Aliya here."
"Oh, good morning, Dr Aliya", a voice said. "It's Jharna here, professor Salam's secretary. It's about that meeting on Monday. You are definitely coming, aren't you?"
"The meeting. Yes, of course". Dr Aliya said, looking in her diary. "It's at eleven, I see".
"Well, no. We had to change the time", Jharna said, "It's going to be at twelve. I'm sure I told you".
"But I've got a lecture at twelve", Dr Aliya said. "But surely you can cancel your lecture -just for once", Jharna suggested. "The meeting's very important, as you know".
"I've never cancelled a lecture in my life", Dr Aliya told her. "Sorry!" There was a silence.
"However", she went on. "I've got an idea. I've just got a new cassette recorder- rather a good one, in fact. I'll record my lecture beforehand- and then I'll be able to come to the meeting".
"Wonderful", said Jharna. "I'll tell professor Salam you'll be there, then".
At five to twelve on Monday morning Dr Aliya went along to the lecture room. There were about twenty students waiting there for her. "I'm sorry," she told them, "I won't be able to give my lecture today". The students looked surprised. Dr Aliya explained that she had an important meeting. "However", she went on, "although I can't be with you myself, my voice can!" She gestured towards the cassette recorder on the table. "You see, I've recorded my lecture and you can listen to it while I go to my meeting. So, in a way, I'll be in two places at once! One of the miracles of modern science!" Feeling rather pleased with herself, Dr Aliya switched on the cassette recorder and left.
The meeting in professor Salam's office finished a little early, so Dr Aliya decided to go back to the lecture room. She stood for a moment outside the door, listening to her own voice. Then, very quietly, she opened the door. To her surprise, the room was empty. But then, as she looked around, she saw a number of small cassette recorders- all 'listening' to her lecture! "Well", she thought, "if I can be in two places at once, so can they!"

1. Answer these questions. If you cannot find the answer in the text, say, " the answer isn't there." 10
    1) What was Jharna's official status?
    2) Why did she ring Dr Aliya?
    3) Was Dr. Aliya aware of the meeting?
    4) Where was the meeting?
    5) What was the meeting about?

Premier University, Chattogram
Department of CSE
Midterm Examination, November 2018
2nd Semester
Course Title: Developing English Skills (ENG-104) Full Marks:4

Time: 1.00 hour

Premier University, Chittagong
Department of Computer Science and Engineering
2nd Semester mid-term Examination, November 2018
Course Title: Discrete Mathematics;Course Code: CSE 103
Time: 30 mins, Full Marks: 20

[N.B. - (Answer all questions;]

1 a) Construct truth table for the following connectives:

(i) If P= $(s \rightarrow (p \wedge \bar{r})) \wedge ((p \rightarrow (r \vee q)) \wedge s)$ and $Q = p \vee t$
Then show that $P \equiv Q$

2 a) Let $A = \{n : n \in N and n = 3k + 2 for some k \in N\}$;
$B = \{n : n \in N and n = 5k - 1 for some k \in N such that k \geq 5\}$ and
$C = \{m \in N : m = 6k - 4 and k \in N and k \geq 1\}$
Prove that (a) $C \subset A$
(b) $A \neq B$

Premier University Chittagong
Midterm Examination, November2018
CSE, 2nd Semester
Course Name: Electronics I
Course Code: EEE 211

Marks: 20 Time: 1 hr.

1. (a) Describe the mechanism of avalanche breakdown in a diode when it is configured to reverse bias. 3

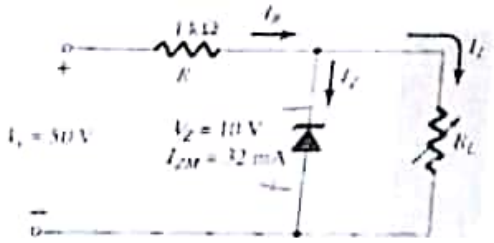
(b) Sketch the circuit diagram and waveform for bridge network type full wave rectifier. What is the PIV rating of this type of rectifier? 3

2. (a) Draw the diode equivalent models and characteristics under different approximations. 2

(b) Sketch the output for the following network 5

3. (a) Sketch the characteristics curve of Zener diode and point out the regions in where the Zener diode remains on state. 2

(b) 5



For the network above determine the range of R_L and I_L that will result in being maintained at 10 V

Premier University, Chattogram
Department of CSE
Midterm Examination, November 2018
2nd Semester
Course Title: Developing English Skills (ENG-104) Full Marks:40

Time: 1.00 hour

Premier University, Chittagong
Department of Computer Science and Engineering
2nd Semester mid-term Examination, November 2018
Course Title: Discrete Mathematics, Course Code: CSE 103
Time-40mins; Total-20

a) Construct truth table for the following connectives:

(iii) $(s->(p\wedge\bar{r}))\wedge((p->(r\vee q))\wedge s)$

(iv) $(p\vee(\bar{p}\wedge\overline{(q\vee r)}))->(p\vee\overline{(r\vee q)})$

b) Prove that every formula has an equal number of right and left parentheses.

a) Let the universal set U={1,--------,10},A={1,4,7,10}, B={1,2,3,4,5} and C={2,4,6,8}.Use bit representations for A,B and C together with UNION, INTER, DIFF and COMP to find the bit representation for the following:

(iv) $((C\cap A)-\overline{(B-A)})\cap C$

(v) $(B-\bar{C})\cup((B-\bar{A})\cap(C\cup B)$

(vi) $A\times B\times C$

) Define Symmetric Difference. State and prove De-Morgan's Laws.

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she thought, "if I can be in two places at once, so can they!"

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't there."

PREMIER UNIVERSITY
CSE 2nd semester Midterm Examination- Nov'2018
Course title: Engineering Physics II, Course code: PHY 103

Time: 1 hour (Answer any one question) Marks: 20

1. (a) State and explain Biot-savart law?
(b) Find an expression of magnetic induction at a point due to a straight conductor carrying current.
(c) 15 A current passing through a straight wire of length 2m.Find the magnetic field at a perpendicular distance of 3cm from the wire.
(d) Explain magnetic field vector (B)?
(e) Calculate the magnetic field of long straight wire that has a circular loop with a radius of 0.05m.The current flowing through this closed loop is given as 2 A.

3+7+3+3+4=20

2. (a)State Gauss's law? Find an expression for a long charged cylinder from the application of Gauss's law.
(b) What is the velocity of electron that has been acceleration through a potential difference of 100 volt?
(c) Find an expression of potential for an electric dipole.
(d) The potential at points in a plane is given by:

$$V=\frac{ax}{(x^2+y^2)^{3/2}}+\frac{b}{(x^2+y^2)^{1/2}}$$

Where, x and y are the rectangular coordinates of a point, a & b are constants. Find the components E_x and E_y and the electric intensity at any point.

(2+5)+3+6+4=20

6) Who changed the time of the meeting?
7) Did Dr. Aliya agree with Jharna?
8) What was Dr. Aliya's "idea"?
9) Did Dr. Aliya go to the lecture room in the afternoon?
10) Did the students listen to Dr. Aliya's lecture?

05

2. Try to guess the meaning of these words: 10
1) Defi[illegible] 2) Cancel 3) Beforehand 4) Gestured 5) Miracle

3. Make true sentences and then put them in order.

Dr. Aliya	Will be informed about her presence.	1
Jharna	Proposed an alternative arrangement.	2
Professor Salam	Wanted to ensure the schedule.	3
	Checked the facts about the meeting.	4
	Talked about her lecture with students.	5

05

4. Complete the sentences. Use the idea in the text.
1) Dr. Aliya thought that----------but instead it was at twelve.
2) Jharna wanted----------because the meeting was important.
3) Dr. Aliya----------so she was able to record her lecture beforehand.
4) Before she left the lecture room, Dr. Aliya----------.
5) When she opened the door of the lecture room, Dr. Aliya expected to find-----not-----!

5. Describe in not more than 100 words the use of modern electronic devices in your class room. If you find it interesting, say why? 10

Premier University
Department of Computer Science and Engineering
2nd Semester (Section-B), Midterm Examination, November 2018
Course Code: CSE–111
Course Title: Structured Programming

Time: 1hr

Total Marks: 20

Answer any two (2) set of questions

1. a) Differentiate among the basic data types in C. (3)
   b) Define symbolic constant. Why is a variable different from a symbolic constant? (3)
   c) Is the following code fragment valid? What will be the output if so? State your reason. (4)

```
Int a =2, b = 5, c;
c = a+++b;
printf("%d %d %d, a,b,c");
```

2. a) What is the purpose of the **do-while** statement? How does it differ from the **while** statement? (2)
   b) When entering a string via the **scanf** function, how can a single string which includes whitespace characters be entered? (2)
   c) Write a C program to read three values using **scanf** statement and print the following results: (6)
      (i) Sum of the values
      (ii) Average of the three values
      (iii) Largest of the three
      (iv) Smallest of the three

3. a) What is the relationship between formal arguments and actual arguments? (2)
   b) Define function prototypes. What is their purpose? (2)
   c) What is function call? Write a C program that calculates factorial of a given number using function. (6)

CT Questions

Premier University
Department of Computer Science and Engineering
CT-01
Course Code: CSE–111
Course Title: Structured Programming

Time: 25mins

Total Marks: 10

1. Define pointer. What does "address of a memory" location means? 4
2. What would be the equivalent pointer expression for referring the array element a[i][j][k][l]? 2
3. What is the output of the following program 4

```
#include <stdio.h>
#define R 10
#define C 20
int main()
{
  int (*p)[R][C];
  printf("%d", sizeof(*p));
  return 0;
}
```

3.6×10⁻⁴
0.0225

Premier University

Time-30 min

CSE, CT-1

Marks-10

1(a) what do you mean by Electric flux? Explain. 2

(b) State Gauss Law? What is Gaussian surface? 3

(c) Two particles with equal charge magnitudes 2.0 x 10-7 C but opposite signs are held 15 cm apart. 3
What are the magnitude and direction of the Electric Field E at the point midway between the charges?

(d) What is Electric field? How it is related to Coulomb force F? 2

int f*pIRfICI;

CT -2

DCSE, Engineering physics II

a) Show that the difference between two consecutive Bright fringe and dark fringe $\beta = \lambda D/d$. 6

b) Young's double slit experience the separation of the slits is 1.9 mm and the fringe spacing is 0.1mm at a distance of 1 meter from the slits. Calculate the wavelength of light. 4

c) Give analytical treatment of interference. 6

d) Young's double slit experience the separation of the slits is 1.9 mm and the fringe spacing is 0.1mm at a distance of 1 meter from the slits. Calculate the wavelength of light. 4

Premier University
Department of Computer Science and Engineering
CT - 2
Course Code: CSE–111
Course Title: Structured Programming

Total Marks: 10 **Time: 25min**

1. Define structure? How do you initialize structure? 2
2. Explain the differences between structures and union. 3
3. Create a structure named student that has name, roll, marks and remarks as members. Write a program to read and display data entered by the user. 5

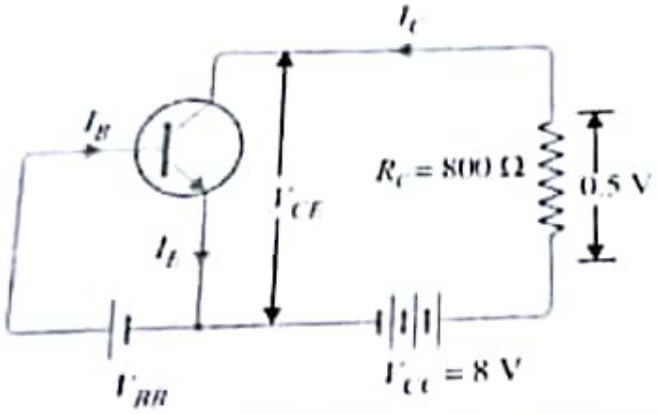
Course Title: Electronics 1 **Course Code: EEE 211**

Time: 20 min **Marks: 10**

1) Draw the input and output characteristics curve for common base configuration 4

2) For the following configuration determine a) collector-emitter voltage b) base current. 6

Consider $\alpha = 0.96$



Course Title: Electronics I **Course Code: EEE 211**

Time: 20 min **Marks: 10**

1) Draw the schematic diagram and symbols for nmos and pmos. 4

2) Briefly describe the saturation region of operation of a nmos transistor 6