

KATHMANDU UNIVERSITY
End Semester Examination [C]
April, 2022

Marks Scored:

Level : B.E.

Year : I

Course : COMP 102

Semester : I

Exam Roll No. :

Time : 30 mins.

F. M. : 10

Registration No.:

Date :

SECTION "A"

Encircle the most appropriate option.

- Which of the following is not a valid variable name declaration?
a. int _a3; b. int a_3; c. int 3_a; d. int _3a;
- The format identifier '%i' is also used for _____ data type.
a. char b. int c. float d. double
- Which among the following is NOT a logical or relational operator?
a. != b. = c. == d. ||
- For which of the following is the correct syntax of the #define directive?
a. #define PI 3.14; c. #define PI 3.14
b. #define <PI 3.14> d. #define float PI 3.14;
- A character variable can store ____ character(s) at a time.
a. 1 b. 2 c. 0 d. NULL
- What will be the output of the following C code?

```
#include <stdio.h>
void main()
{
    int x = 5;
    if (true);
    printf("hello");
}
```


a. It will display hello
b. It will throw an error
c. Nothing will be displayed
d. Compiler dependent
- Which of the following is an invalid if-else statement?
a. if (if (a == 1)){ } c. if (a){ }
b. if (func1 (a)){ } d. if ((char) a){ }
- The statement `scanf("%d %d", &num1, &num2);` _____
a. prints value of num1 and num2.
b. assigns float value to num1 and num2.
c. assigns integer value to num1 and num2.
d. prints address of variables num1 and num2.

9. What will be the output of the following C code?

```
#include <stdio.h>
void main()
{
    int i = 0, j = 0;
    for (i = 0; i < 5; i++)
    {
        for (j = 0; j < 4; j++)
        {
            if (i > 1)
                break;
        }
        printf("Hi \n");
    }
}
```

- a. Hi is printed 5 times
b. Hi is printed 9 times
c. Hi is printed 7 times
d. Hi is printed 4 times

10. The C code 'for(;;)' represents an infinite loop. It can be terminated by _____
a. break b. abort() c. exit(0) d. terminate

11. What is the scope of a function?

- a. Whole source file in which it is defined
b. From the point of declaration to the end of the file in which it is defined
c. Any source file in a program
d. From the point of declaration to the end of the file being compiled

12. Which among the given options compares at most **n** characters of string **ch** to string **s**?

- a. int strncmp(ch, s, n) c. int strncmp(s, ch, n)
b. int strcmp(ch, s) d. int strcmp(s, ch)

13. Comment on an array of the void data type

- a. It can store any data-type
b. It only stores element of similar data type to first element
c. It acquires the data type with the highest precision in it
d. You cannot have an array of void data type

14. Which is an incorrect declaration of one dimensional array?

- a. int x[5]; c. int x[]={1,2};
b. int x[5]={1,2,3,4,5}; d. int x[];

15. What is the output of this C code?

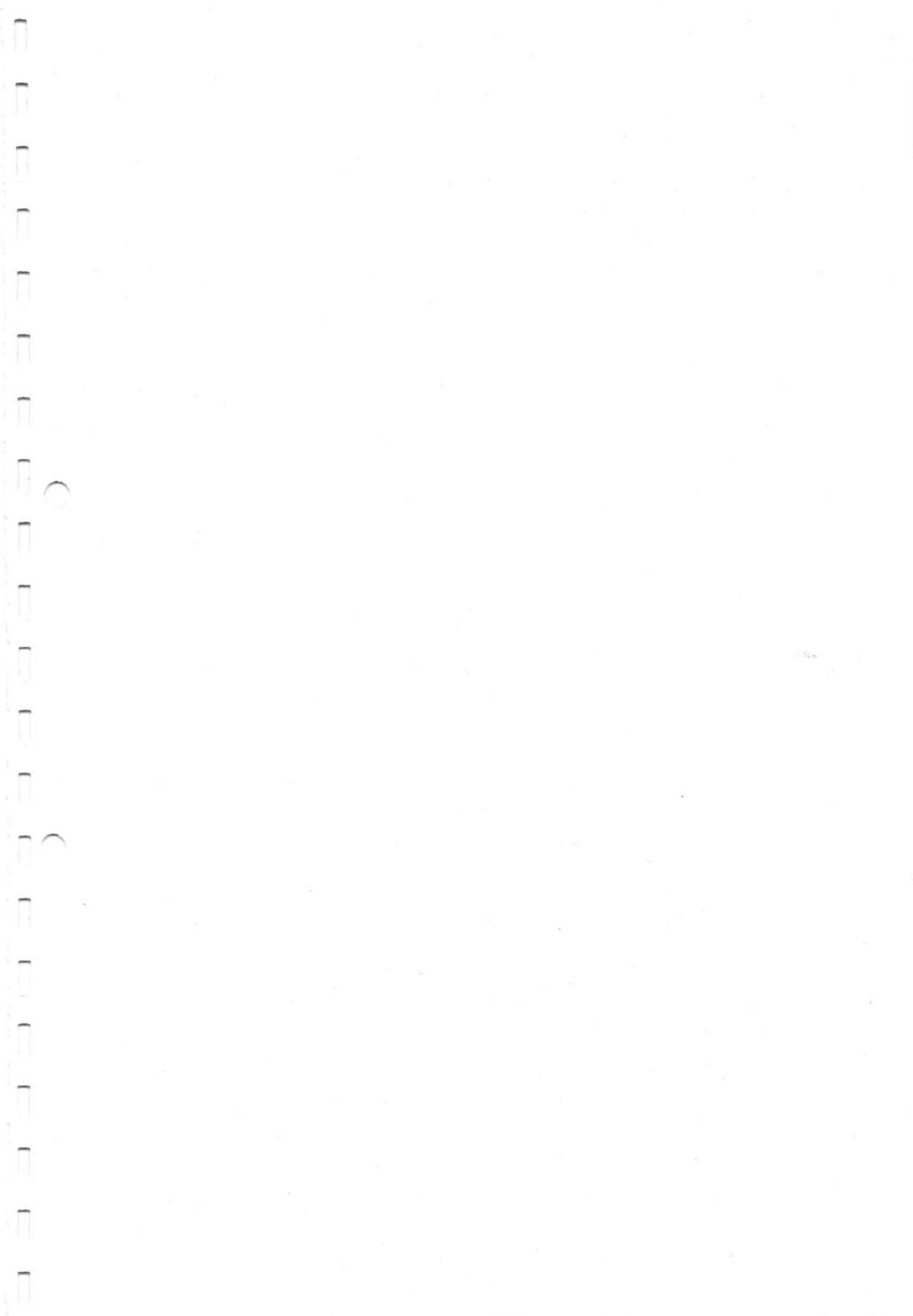
```
#include <stdio.h>
struct student
{
    int no = 5;
    char name[20];
};
void main()
{
    struct student s;
    s.no = 8;
    printf("hello");
}
```

- a. Compile time error c. hello
b. Nothing d. Varies

16. Members of a union are accessed as _____
- union_name.member
 - union_pointer->member
 - both union_name.member & union_pointer->member
 - none of the mentioned
17. What does the following statement do?
 struct card a = { "Three", "Hearts" };
 - It creates a variable **card** of type struct with two members specified in the list.
 - It creates a variable **a** to be of type struct card and initializes it to the values in the list.
 - It creates two variables named **Three** and **Hearts** of type struct card a.
 - It creates two variables named Three and Hearts of type struct card.
18. In C, if you pass an array as an argument to a function, what actually gets passed?
 - Value of elements in array
 - First element of the array
 - Base address of the array
 - Address of the last element of array
19. According to the precedence rules, which operator has the highest priority in the following conditional statement?
 if(x==10+15 && y < 10)
 - +
 - <
 - &&
 - ==
20. If A=10001001 and B = 01001101, what will be the value of A^B?

```
#include <stdio.h>
void main()
{
    int x = 4;
    int *p = &x;
    int *k = p++;
    int r = p - k;
    printf("%d", r);
}
```

- 4
- 8
- 1
- Run time error



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End Semester Examination [C]
April, 2022

Level : B.E.
Year : I
Time : 2 hrs. 30 mins.

Course : COMP 102
Semester : I
F. M. : 40

SECTION "B"
[6Q × 4 = 24 marks]

Attempt ANY SIX questions.

1. What are the fundamental data types? How can the value of an expression be converted to a different type? Give an example. [2+2]
2. What is meant by associativity? What is the associativity of arithmetic operators? When should parentheses be included within an expression? [2 + 2]
3. What is the purpose of do-while statement? How does it differ from the while loop? [1 + 3]
4. A library charges a fine for every book returned late. For first 5 days the fine is 5 rupees, for 6-10 days fine is 10 rupees and above 10 days fine is 50 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the fine or the appropriate message. [4]
5. What are function prototypes? What is their purpose? What is the purpose of each item or group of items? [1+1+2]
6. Write a program to read two integers n1 and n2 and display the sum of all odd numbers in between n1 and n2. [4]
7. What is pointer? Describe benefits of using pointers. What is the difference between *calloc* and *malloc*? [1+ 1 + 2]

SECTION "C"
[2Q × 8 = 16 marks]

Attempt ANY TWO questions.

8. Write a menu driven program that depicts the working of a library. The menu options should be: [8]
 - a) Add book information
 - b) Display book information
 - c) List all books of given author
 - d) List the title of specified book
 - e) ExitCreate a *structure* called **library** to hold *accession number, title of the book, author name, price of the book, and flag* indicating whether book is issued or not.
9. What is an array? What is a dynamic array? How is it created? How does pass by value is different from pass by reference? [1 + 1 + 2 + 4]
10. Compare the use of the switch statement with the use of nested if-else statements. Write a complete C program to sort 10 integer numbers using bubble sort. Your program should store 10 integers into one dimensional array. [3 +5]





KATHMANDU UNIVERSITY
 School of Science / School of Engineering
 End-Semester Examinations
 May/June, 2022

Examination Time: 11:00 A.M. to 2.00 P.M.

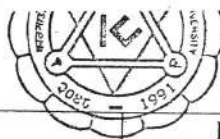
Date/ Day	I-I	I-II	II-II	III-II
May 26, 2022 Thursday	PHYS 104 ✓	PHYS 102 ✓ PHYS 105 ✓ ARCH 112 ✓		ETEG 303 ✓ ETEG 301 ✓ MEEG 306 ✓ COMP 302 ✓ GEOM 306 ✓ CIEG 308 ✓ ARCH 319 ✓ INAN 301 ✓ MGTS 302 ✓ BIOT 305 ✓ ENVS 303 ✓ MATH 327 ✓
May 27, 2022 Friday			MATH 208 ✓ MATH 207 ✓ ENVS 203 ✓ PHAR 214 ✓ MATH 217 ✓ ARCH 215 ✓ BIOT 206 ✓ BIOT 208 ✓	
May 30, 2022 Monday	CHEM 101 ✓	MATH 104 ✓ MATH 102 ✓ MATH 103 ✓ MATH 106 ✓		EEEG 309 ✓ MEEG 308 ✓ COMP 314 ✓ GEOM 310 ✓ CIEG 309 ✓ CIEG 341 ✓ CHEG 305 ✓ ENVS 335 ✓ PHAR 311 ✓ BIOT 306 ✓
May 31, 2022 Tuesday			MCSC 202 ✓ ESEE 221 ✓ ARCH 216 ✓ PHAR 223 ✓ BIOT 207 ✓	Semic Lithograph
June 2, 2022 Thursday	COMP 101 ✓ AGRS-116 ✓	ENVE 101 ✓ CHEM 102 ✓ BIOT 102 ✓ NEPT 101 ✓		GEOM 307 ✓ CHEG 314 ✓ PHAR 313 ✓

SOCA-401

ENVS-402 ✓
ARCH-425 ✓

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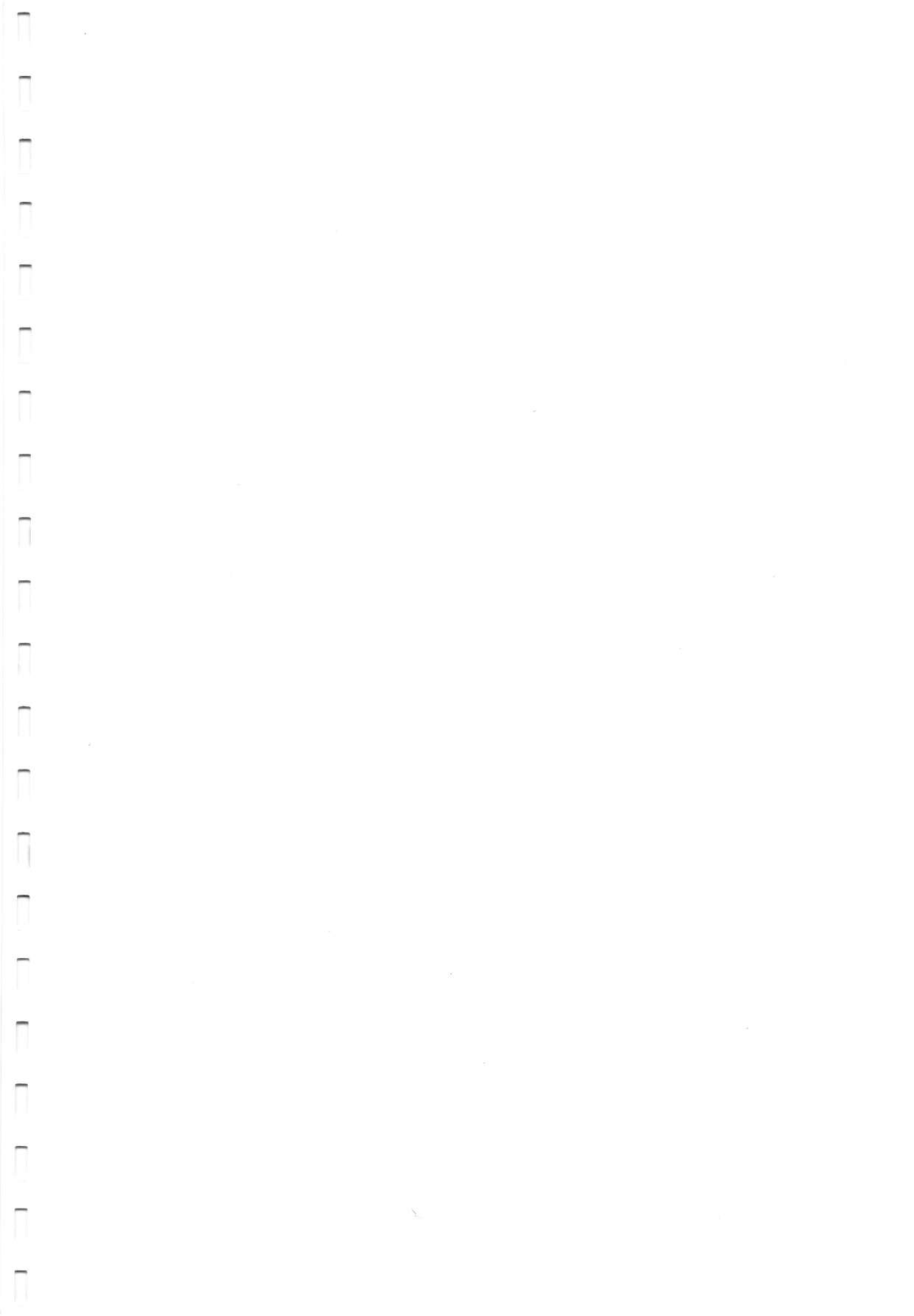
Date/ Day	I-I	I-II	II-II	III-II
June 5, 2022 Sunday ✓		✓ AGRY -111	✓ EEG 214 ✓ ✓ MEEG 202 ✓ ✓ COMP 204 ✓ ✓ CIEG 206 ✓ ✓ CIEG 241 ✓ ✓ CHEG 210 ✓ ✓ ENVS 202 ✓ ✓ CHEM 212 ✓	
June 6, 2022 Monday ✓	✓ MATH 111	✓ COMP 116 ✓ COMP 117 ✓ ARCH 161		✓ ETEG 305 ✓ COEG 301 ✓ MEEG 318 ✓ COMP 304 ✓ MATH 322 ✓ GEOM 315 ✓ CIEG 310 ✓ CHEG 310 ✓ CIEG 342 ✓ ENVS 336 ✓ BIOT 307
June 7, 2022 Tuesday		✓ AGRS-105 ✓ COMP 102		✓ PHAR 316
June 8, 2022 Wednesday			✓ PHAR 221 ✓ BIOL 207	
June 9, 2022 Thursday ✓		✓ ENVS 101 ✓	✓ EEG 215 ✓ ✓ MEEG 206 ✓ ✓ COMP 231 ✓ ✓ GEOM 204 ✓ ✓ CIEG 207 ✓ ✓ CIEG 242 ✓ ✓ CHEG 211 ✓ ✓ BIOT 211 ✓ ✓ MATH 211 ✓	
June 10, 2022 Friday ✓	✓ ENGT 104 ✓	✓ ENGT 105 ✓ ✓ CHEM 103 ✓ ✓ AGRS-117 ✓		✓ ETEG 321 ✓ ✓ EPEG 318 ✓ ✓ MEEG 317 ✓ ✓ MEEG 309 ✓ ✓ COMP 341 ✓ ✓ GEOM 319 ✓ ✓ CIEG 318 ✓ ✓ CIEG 313 ✓ ✓ CHEG 312 ✓ ✓ EEG 331 ✓ ✓ BIOT 308 ✓ ✓ ENVS 305 ✓ ✓ ENVS 345 ✓ ✓ MATH 325 ✓

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Controller of Examinations

(Sheets 2 of 3)





Date/ Day	I-I	I-II	II-II	III-II
June 12, 2022 Sunday		✓ ENVS 112 ✓ ✓ Agnet - 111 (41-210)	✓ PHAR 224 ✓ ✓ ENVS 205 ✓	✓ PHAR 315 ✓
June 13, 2022 Monday	✓ PHAR 112 ✓		✓ EEEG 221 ✓ ✓ MEEG 207 ✓ ✓ iCOMP 232 ✓ ✓ GEOM 206 ✓ ✓ CIEG 208 ✓ ✓ CHEG 212 ✓ ✓ BIOT 210 ✓ ✓ PHAR 212 ✓	✓ GEOM 313 ✓
June 14, 2022 Tuesday		✓ BIOT 101 ✓		✓ EPEG 301 ✓ ✓ EPEG 315 ✓ ✓ MGTS 303 ✓ ✓ COMP 306 ✓ ✓ COMP 323 ✓ ✓ CIEG 312 ✓ ✓ CHEG 313 ✓ ✓ BIOT 309 ✓ ✓ ENVS 337 ✓ ✓ ENVE 399 ✓
June 15, 2022 Wednesday		✓ ENGG 112 ✓	✓ PHAR 222 ✓ ✓ ESEE 201 ✓	
June 16, 2022 Thursday				✓ ENVS 306 ✓
June 17, 2022 Friday			✓ CEEG 201 ✓ ✓ CIEG 209 ✓ ✓ CHEG 213 ✓ ✓ ENVE 205 ✓ ✓ MATH 213 ✓	
June 19, 2022 Sunday				✓ COMP 307 ✓ ✓ COMP 342 ✓ ✓ COMP 409 ✓ ✓ CIEG 314 ✓ ✓ CHEG 315 ✓ ✓ CHEG 322 ✓ ✓ ENVS 331 ✓ ✓ ENVE 311 ✓

Note:

1. Examinations will be conducted as per this schedule and under no circumstance the dates and times will be changed unless the University publishes prior notice.
2. Practical examinations will be conducted by the schools/ departments.
3. The schools/departments should submit the in-semester evaluations and the practical examination evaluations to the Office of the Controller of Examinations by May 19, 2022.

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Controller of Examinations

(Sheets 3 of 3)



