Academic Year (2020-21)

Department of Information Technology (Under Graduate Course) B.Sc.IT

Question Bank
Semester – I
Imperative Programming (USIT101)

Advanced Learners

1. We can insert pre written code in a C program by using-
   A. #read
   B. #get
   C. #include
   D. #put

2. What will be output of :

```
#include<stdio.h>
void main()
{
char test =`S`;
printf("\n%c",test);
}
```

A. S
B. Error
C. Garbage value
D. Compiler error

3..A ternary operator, operates on _____ operands.
A. one
B. two
C. multiple
D. three

4. Which expression is used to match the non-word character?
A. (condition: true: false)
B. (condition? true: false)
C. (condition? False : true)
D. (true: false? condition)

5. Relational operators cannot be used on _____

A. structure
B. long
C. strings
D. float

6.A function which calls itself is called a ___ function.
A. Self Function
B. Auto Functio
C. Recursive
D. Static Function

7. The _____ is used to break out of the case statements.
A. Continue
B. Break
C. Default
D. Case

8. A function is a subroutine that may include one or more _____ designed to perform a specific task.
A. Function
B. Statement
C. Libraries
D. Data Types.

9. A pointer is:
A. A keyword used to create variables
B. A variable that stores address of an instruction
C. A variable that stores address of other variable
D. A storage in memory

10. The operator used to get value at address stored in a pointer variable is:
A. *
B. &
C. &&
D. ||

Slow Learners

1. What will be the output of following program:

```
#include<stdio.h>
main()
{
int x,y = 10;
x = y * NULL;
printf("%d",x);
}
```

A. Error
B. 0
C. 10
D. Garbage Value

2. Which of the following below is/are valid C keywords?
   A. Integer
   B. int
   C. Null
   D. print

3. What is the storage size of int function?
   A. 2 bytes
   B. 4 bytes
   C. 2 bits
   D. 8 bytes

4. If a=10; b= a - -. Then what will variable b store?
   A. 10
   B. -10
   C. -9
   D. 9

5. The value obtained in the function is given back to main by using _____ keyword?
   A. return
   B. static
   C. new
   D. volatile

6. What is the default return type if it is not specified in function definition?
   A. Void
   B. Int
   C. Double
   D. short int

7. What is the inital value of register storage class specifier?
   A. 0
   B. null
   C. Garbage
   D. 1

8.What is the scope of the extern class specifier?

A. Within block
B. Within Program
C. Global Multiple files
D. Within Function

9. Can you combine the following two statements into one?

```
char *p;
p = (char*) malloc(100);
```

A. char p = *malloc(100);
B. char *p = (char) malloc(100);
C. char *p = (char*)malloc(100);
D. char *p = (char *)(malloc*)(100);

10.If a variable is a pointer to a structure, then which of the following operators is used to access data members of the structure through the pointer variable?

A. .
B. &
C. *
D. ->

Assignment

1. The compiler in C ignores all text till the end of line using
   A. //
   B. /
   C. */
   D. **/

2. N=10; N++; Select the Correct Output.

A. 10
B. 11
C. 9
D. -11

3. What is the way to suddenly come out of or Quit any Loop in C Language.?

A. continue; statement
B. break; statement
C. leave; statement
D. quit; statement

4. Which of the following is not a storage class specifier?

A. auto
B. register
C. extern
D. volatile

5. What is the output of this C code?

```
int main()
{
int i = 10;
void *p = &i;
printf("%d\n", (int)*p);
return 0;
}
```

A. Compile time error
B. Segmentation fault/runtime crash
C. 10
D. Undefined behaviour

Digital Electronics (USIT102)

Advanced Learners

1. The number 27 is decimal number. Convert it in Hexadecimal.
A. 1B
B. B1
C. 2B
D. 1C

2. The number 11 is decimal number. Convert it in Octal.
A. 13
B. 14
C. 10
D. 9

3. The output of the two-input OR gate is high
A. Only if both inputs are high
B. Only if both inputs are low
C. Only if one input is high and the other is low
D. If at least one of the inputs is low

4. NAND gate means
A. Inversion followed by AND gates
B. AND gates followed by an inverter
C. AND gate followed by OR gate
D. If at least one input is low

5. For converting gray to binary; binary bit added to next position _____ bit.
A. Binary
B. Gray
C. X3
D. BCD

6. BCD is valid up to decimal_____.
A. 7

B. 8
C. 9
D. 10

7. In design table if only bottom row is circled then we put logic _____.
A. 0
B. 1
C. A
D. A'

8. Demultiplexer has _____ input/s.
A. single
B. multiple
C. zero
D. infinite

9. In synchronous counter next Flip-flop is triggered by _____.
A. Previous flip-flop
B. Clock
C. Preset
D. Register

10. _____ counter does not have problem of glitch.
A. Asynchronous
B. Synchronous
C. Register
D. Automatic

Slow Learners

1. The number 25 is the decimal number. Convert it in BINARY.
A. 11001
B. 11000
C. 10011
D. 00110

2. The number 34 is octal number. Convert it in decimal.
A. 27
B. 29
C. 28
D. 26

3. Which of the following is applicable to OR gate?
A. Y=A+B
B. Y=A-B
C. Y=B
D. Y=A/B

4. _____ gate has 1 input and 1 output.
A. AND
B. OR
C. NOT

D. NAND

5. To design a 4-bit binary to gray converted _____ gates are used.
A. 3 XOR
B. 4 XOR
C. 3 OR
D. 4 OR

6. To design a 4-bit gray to binary converted _____ gates are used.
A. 3 XOR
B. 4 XOR
C. 3 OR
D. 4 OR

7. Multiplexer has _____ input/s.
A. single
B. multiple
C. zero
D. infinite

8. Multiplexer has _____ output/s.
A. single
B. multiple
C. zero
D. infinite

9. If n=8 and states are 0,1,2,3,4,5,6,7 then it is a _____ counter.
A. Regular
B. Truncated
C. Non-truncated
D. Non-Sequential

10. In ripple counter first flip-flop becomes _____.
A. LSB
B. MSB
C. Worst
D. Best

a
1. In Boolean algebra, A + B.B is equivalent to _____
A. 2A+2B
B. 2(A+B)
C. A+B
D. (A+A).(B+B)

2. Using Full subtractor; if input A=1, B=1, and C=1 then difference =_____ and borrow= _____.(A is MSB)
A. 0,0
B. 0,1

C. 1,0
D. 1,1

3. In 1:8 demultiplexer, 8 represent _____.
A. Input
B. Output
C. Select line
D. Control line

4. Modulo 10 counter has _____ states.
A. 9
B. 10
C. 1
D. 0

5. Binary addition: 11111010 + 11001100= _____.
A. 0111000110
B. 111100001
C. 111011011
D. 111111000

Operating Systems (USIT103)

Questions for Advanced Learner

1.The kernel is _____ of user threads
a. a part of
b. the creator of
c. unaware of
d. aware of

2. Which of the following multithreading model maps many user level threads to one kernel thread?
a. Many to One Model
b. One to Many Model
c. Many to Many Model
d. One to One Model

3. A _____ is a program in execution.
a. Process
b. Thread
c. Application
d. Software

4. User Threads

a. are supported above the kernel and are managed without the kernel support
b. are supported below the kernel and are managed without the kernel support
c. are supported above the kernel and are managed with the kernel support
d. are supported below the kernel and are managed with the kernel support

5.Dual mode of operating system has
A. 1 mode
B. 2 modes
C. 3 modes
D. 4 modes

6.Multi-processor system gives a
A. small system
B. tightly coupled system
C. loosely coupled system
D. moderately coupled system

7._____ are used widely in computer architecture and vary in their signaling methods, speed, throughput, and connection methods
a. bus
b. card
c. interface
d. connector

8. connects physical device to system bus like minicomputers, pcs,etc
a. wired
b. driver
c. device controller
d. device connection

9.Potential deadlocks that involve preemptable resources can usually be resolved by___
a. allocating resources
b. deallocating resources
c. reallocating resources
d. locking resources

10. There must be a circular chain of two or more processes, each of which is waiting for a resource held by the next member of the chain ,select suitable method
a. mutual exclusion condition
b. hold and wait condition
c. no preemption condition
d. circular wait condition

Questions for Slow Learners

1.Preemption deal with deadlocks,which issue need to be addressed
a. waiting
b. killing
c. rollback
d. execute

2.The _____ algorithm requires a priori information about the maximum number of each resource class that each process may request
a. bankers
b. ostrich
c. optimal
d. fifo

3.The _____ is not an operation of a directory in linux.
a. md
b. mkdir
c. rmdir
d. open

4._____ can occur in a variety of different situations besides requesting dedicated i/o devices
a. reservation
b. deadlock
c. lagging
d. hault

5. deadlocks can occur when processes have been granted exclusive access to.
a. resources
b. data
c. memory
d. component

6. ____ resource is one that can be taken away from the process owning it with no ill effects
a. preemptable
b. non preemptable
c. preserve
d. reserve

7. Potential deadlocks that involve preemptable resources can usually be resolved by___
a. allocating resources
b. deallocating resources
c. reallocating resources
d. locking resources

8.Which strategy is often used when the mutual exclusion will be used for a very short time and the overhead of suspension is large compared to doing the work
a. livelock
b. pastlock
c. exclusive lock
d. preemptable lock

9. Starvation can be avoided by using a
a. first-come, first-served, resource allocation policy
b. last-come, first-served, resource allocation policy
c. first-come, last-served, resource allocation policy
d. last-come, last-served, resource allocation policy

10.which of the following is multiple-cpu system.
a. mini computer
b. supercomputer
c. clustered system
d. distributed system

Assignment

1.As in a traditional Linux system, Android's first user-space process is_____, which is the root of all other processes.
a. init
b. start
c. end
d. load

2.Applications interact with the operating system through calls to libraries provided by it, which together compose the Android _____.
a. Library
b. Collection
c. Framework
d. Package

3.The _____ manager rides herd on power usage throughout the system.
a. Power
b. Electric
c. Battery
d. Cell

4._____ OS specifically designed for smartphones and tablet computers
a. Android
b. Raspberry pi
c. Ubuntu
d. fedora

5.Android is developed by the _____
a. microsoft
b. ibm
c. open handset alliance
d. google

Discrete Mathematics(USIT104)

ADVANCED LEARNER

1) The set O of odd positive integers less than 10 can be expressed by _____
   a) {1, 2, 3}
   b) {1, 3, 5, 7, 9}
   c) {1, 2, 5, 9}

d) {1, 5, 7, 9, 11}

2) Power set of empty set has exactly _____ subset.

a) One

b) Zero

c) Two

d) Three

3) Let Q(n) be the predicate "n is a factor of 8." What is the truth set of Q(n) if the domain of n is the set of all positive integers?

a) {2, 4}

b) {2, 4, 8}

c) {1, 2, 4, 8}

d) {-8, -4, -2, -1, 1, 2, 4, 8}

4) Which of the following is false?

a) The product of any two odd integers is odd.

b) The difference of any two odd integers is odd.

c) The difference of any two even integers is even.

d) The product of any two even integers is even.

5) In the principle of mathematical induction, which of the following steps is mandatory?

a) induction hypothesis

b) inductive reference

c) induction set assumption

d) minimal set representation

6) Let f and g be the function from the set of integers to itself, defined by f(x) = 2x + 1 and g(x) = 3x + 4. Then the composition of f and g is _____

a) 6x + 9

b) 6x + 7

c) 6x + 6

d) 6x + 8

7) The congruence modulo 2 relation E is defined from as follows: Which of the following is true?

a) 5E2

b) 3E0

c) -1E7

d) 4E1

8) An n-vertex graph has _____ edges.

a) n^2

b) n-1

c) n*n

d) n*(n+1)/2

9) At an election there are 5 candidates and 3 members are to be elected and a voter is entitled to vote for any number to be elected but not more than members to be elected. In how many ways a voter can cast his vote?

a) 15

b) 20

c) 25

d) 30

10) A drawer contains ten black and ten white socks. You reach in and pull some out without looking at them. What is the least number of socks you must pull out to be sure to get a matched pair?

a) 1

b) 2

c) 3

d) 4

SLOW LEARNER

1) Number of power set of {a, b}, where a and b are distinct elements.

a) 3
b) 4
c) 2
d) 5

2) The set difference of the set A with null set is _____

a) A
b) null
c) U
d) B

3) How many quantifiers are there in mathematical logic?

a) 2
b) 3
c) 4
d) 5

4) The quotient when 19 is divided by 6 is?

a) 1
b) 2
c) 3
d) 0

5) What is the base case for the inequality $7^n > n^3$, where n = 3?

a) 652 > 189
b) 42 < 132
c) 343 > 27
d) 42 <= 431

6) For A = {1,2,3,4} and B = {1,2,3,4} the function, f = {(1,1), (23), (3,4), (4,2)} is

a) One- one
b) Onto
c) Neither one-one nor onto
d) Both one –one and onto

7) Determine the partitions of the set {3, 4, 5, 6, 7} from the following subsets.

a) {3,5}, {3,6,7}, {4,5,6}
b) {3}, {4,6}, {5}, {7}
c) {3,4,6}, {7}
d) {5,6}, {5,7}

8) Degree of a graph with 12 vertices is _____

a) 25
b) 56
c) 24
d) 212

9) If A and B are independent events then, conditional probability P(A/B) = …….

a) P(A)-P(B)
b) P(A)
c) P(B)
d) P(A)+P(B)

10) There are 12 points in a plane, no three of which are collinear. Find a) How many straight lines can be drawn? b) How many triangles can be drawn?

a) 12, 3
b) 12, 2

c) 66, 220
d) 132, 220

Communication Skills (USIT105)

Advanced Learner

1. What is a mind map?
   A. a diagram used by phrenologists to map the brain and its functions
   B. diagram to visually organize concepts and ideas
   C. a detailed business plan for new ventures
   D. a chart that analyzes a business's strengths, weaknesses, opportunities, and threats
2. Mind maps are used to brainstorm____
   A. Idea, visualize and complicate information
   B. Make things more complicated
   C. Idea, visualize and classify information
   D. are added just for designing
3. Choose the inappropriate option for mind map____
   A. It allows to organize ideas
   B. Memorise and recall information
   C. Communicate better
   D. Forgetting important information
4. Which one of the following statements best describes importance of mind maps
   A. Mind maps organizes information in the same way that your brain organizes
   B. inability to solve problems effectively
   C. missing out task when planning project
   D. it takes too much time to explain
5. One's brain get attracted and can understand quickly with
   A. Simple mind maps
   B. pictures
   C. pictures with colours and flow
   D. Any web diagram
6. Mind maps caters to both sides of the brain, which makes it very good way of____
   A. Click pictures
   B. Recall the presenter
   C. recalling the information
   D. remind the day and date of presentation
7. Who is the first person to use the term 'Mind Maps'
   A. Danial Buzan
   B. Tony Cruzan
   C. Buzan Danial
   D. Tony Buzan
8. Typography is_____
   A. The art and technique of designing with type
   B. The use of a typewriter.
   C. The quality of type
   D. The original text of an author's work
9. What is kerning?
   A. A kind of chart
   B. Font style
   C. an error
   D. the spacing between letters or characters in a piece of text to be printed.

10. The three major elements of presentation do not include:
    A. visual aids
    B. a presenter
    C. specific content
    D. an audience

Slow Learner

1. When there is similarity of background between the sender and the receiver such as age, language nationality, religion, gender then this is called _____ context.
    A. social
    B. cultural
    C. physical
    D. dynamic
2. Letter, e-mail telephone are examples of _____
    A. message
    B. feedback
    C. channel
    D. encoding
3. Understanding _____different parts of speech forms the base of leaning grammar
    A. 5
    B. 8
    C. 6
    D. 7
4. Which of these must be avoided in business letters?
    A. Polite words
    B. Formal words
    C. Abbreviations
    D. Clear details
5. Which of these is not a mode of address for any letter?
A. To a tradesman
B. To a child
C. To a firm
D. To professional men
6. Which of these is not used to conclude a business letter?
A. Yours faithfully
B. Yours truly
C. Yours sincerely
D. With kind regards
7. Where are the details of enclosures mentioned?
A. Beginning of the letter
B. Below the signature column
C. Right-hand side of the letter
D. Main body of the letter
8. The timing section of a proposal will NOT include:
A. guidelines on ethics
B. deadlines for submitting the final report
C. deadlines for ending data collection
D. progress report dates
9. Good research proposals will always

A. focus on addressing the research objectives.
B. provide respondent names and addresses.
C. Consider all possible research that had previously been done on the topic.
D. focus on the Harvard style.
10. The final research report is NOT:
A. a basis for decision-making.
B. a research proposal.
C. tangible evidence of a research project.
D. future secondary data.

Assignment Questions

1 Make a presentation on the topic of "Job prospects in IT industry" (10 slides)

2 Using any word processor, draft an appreciation letter congratulating an employee for having been selected in the national football team.

3 Prepare a Resume using any word processing software.

4 Write a thanksgiving letter to your manager for promoting you to Asst. Manager using word processor.

5 Draft an e-mail to tell your friend about the appreciation you received from Mr.Mehra. (Use word processor)