

**AMIETE – ET/CS/IT {NEW SCHEME}**

Time: 3 Hours

**JUNE 2014**

Max. Marks: 100

**PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.**

**NOTE: There are 9 Questions in all.**

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

**Q.1 Choose the correct or the best alternative in the following: (2×10)**

a. Which device work as an output and input device?

- |             |           |
|-------------|-----------|
| (A) Monitor | (B) Modem |
| (C) Printer | (D) OCR   |

b. \_\_\_\_\_ technology is used in second generation computers.

- |                  |                |
|------------------|----------------|
| (A) Vacuum Tubes | (B) IC         |
| (C) LSI          | (D) Transistor |

c. Octal number system contains digits from \_\_\_\_\_.

- |           |           |
|-----------|-----------|
| (A) 0 - 8 | (B) 0 - 7 |
| (C) 1 - 8 | (D) 1 - 9 |

d. Internal communication within institutions is done through

- |         |         |
|---------|---------|
| (A) LAN | (B) WAN |
| (C) EBB | (D) MMS |

e. Which operators of the following have same precedence?

P. "!=" , Q. "+=" , R. "<<="

- |             |                |
|-------------|----------------|
| (A) P and Q | (B) Q and R    |
| (C) P and R | (D) P, Q and R |

f. How to make an infinity loop in C?

- |                            |                  |
|----------------------------|------------------|
| (A) loop: ..... goto loop; | (B) for(;;) { }  |
| (C) while(1) { }           | (D) All of these |

**Code: AE102/AC102/AT102 Subject: COMPUTER CONCEPTS & C PROGRAMMING**

- g. Which amongst the following is not a keyword?
- (A) external (B) int  
(C) float (D) double
- h. The \_\_\_\_\_ statement causes immediate exit from the loop overriding the condition test
- (A) Exit (B) Break  
(C) Goto (D) None of these
- i. Which of the following numerical value is invalid constant
- (A) .75 (B) 9.3e2  
(C) 27,512 (D) 123456
- j. The C language includes the header file standard input & output in
- (A) stdlib.h library (B) stdio.h library  
(C) conio.h library (D) #include library

---

**Answer any FIVE Questions out of EIGHT Questions.  
Each question carries 16 marks.**

---

- Q.2** a. With the help of a block diagram, explain the basic parts and structure of a computer system. (8)
- b. What is the purpose of an output device? Explain any two most commonly used output devices. (8)
- Q.3** a. Distinguish between single-user and multi-user operating system. Give an example of each. (8)
- b. What is a computer network? Describe different types of computer networks in use today. (8)
- Q.4** a. Describe the basic structure of a C program. Why do we need to use comments in programs? (8)
- b. How do we implement multiple source C program files in UNIX? (8)
- Q.5** a. What do you mean by identifiers? How are these different from keywords?(4)
- b. List some of the general points to keep in mind while writing a scanf statement. (4)

**Code: AE102/AC102/AT102 Subject: COMPUTER CONCEPTS & C PROGRAMMING**

- c. Write a program to read three integers from the keyboard using one scanf statement and output them on one line using: **(2+3+3)**
- three printf statements
  - only one printf with conversion specifiers, and
  - only one printf without conversion specifiers

**Q.6** a. Explain any four bitwise operators available in 'C' language using an example of each category. **(8)**

- b. (i) What is the output of the following? **(4+4)**

```
int main()
{ int a=1,b=2,c=3,d=4,e;
  e=c+d=b*a;
  printf("%d,%d\n",e,d);
}
```

- (ii) What is the output of the following:

```
int a, b,c,d;
main(){
a = 15;
b = 10;
c = ++a-b;
printf("a=%d b=%d c=%d\n", a, b, c);
d = b++ +a;
printf("a = %d b=%d d=%d\n", a, b, d);
}
```

**Q.7** a. Write a function power that computes x raised to the power y for integers x and y and returns double-type value. **(8)**

- b. What do you mean by global variable. Write a multifunction program to illustrate the properties of global variables. **(8)**

**Q.8** a. Explain conditional operator and its syntax using an example. **(6)**

- b. An electric power distribution company charges its domestic consumers as follows: **(10)**

<i>Consumption Units</i>	<i>Rate of Charge</i>
0 - 200	Rs. 0.50 per unit
201 - 400	Rs. 100 plus Rs.0.65 per unit excess of 200
401 - 600	Rs. 230 plus Rs.0.80 per unit excess of 400
601 and above	Rs. 390 plus Rs.1.00 per unit excess of 600

Write a C program that reads the customer number and power consumed and prints the amount to be paid by the customer

**Code: AE102/AC102/AT102 Subject: COMPUTER CONCEPTS & C PROGRAMMING**

- Q.9** a. Write a C program that reads a string from keyboard and determines whether the string is palindrome or not. (A string is palindrome if it is read from left or right gives you the same string) **(8)**
- b. Write a C program to compute and print a multiplication table for numbers 1 to 5 as shown below: **(8)**

	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	.	.	.
4	4	8	.	.	.
5	5	10	.	.	25