



	<p>(i) Addition of two complex numbers  (ii) Subtraction of two complex numbers  (iii) Multiplication of two complex numbers</p> <p>[ Note: Use structures to represent a complex number.]  [3 + 3 + 4 =10 Marks]</p>		
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
<p>Q 10</p>	<p>Differentiate between the following using suitable code snippets:</p> <p>a) Type conversion &amp; type casting  b) return and exit statements  c) Local and global variables  d) Static and shared libraries  e) Static and dynamic memory allocation</p> <p style="text-align: center;"><b>OR</b></p> <p>Write short notes on the following while explaining the related concepts using suitable code snippets:</p> <p>a) Structure member access operators- ‘.’ &amp; ‘-&gt;’  b) Preprocessing directives  c) Limitations of union  d) Data processing in multidimensional array  e) Dynamic memory allocation</p> <p style="text-align: right;">(4 x 5 = 20 Marks)</p>	<p><b>20</b></p>	<p><b>CO2 + CO3+ CO4</b></p>
<p>Q 11</p>	<p>a) Provide the blank spaces with suitable entries in the below-mentioned code snippets to achieve the prescribed outputs:</p> <p>(i) <code>#include&lt;_____h&gt;</code>  <code>void main()</code>  <code>{</code>  <code>    int i1=100;</code>  <code>    float f1=200.5;</code>  <code>    _____ vptr;</code>  <code>    vptr=&amp;i1;</code>  <code>    printf("i1 contains %d\n", *(_____ vptr));</code>  <code>    shiva=&amp;f1;</code>  <code>    printf("f1 contains %0.0f\n", *(_____ vptr));</code>  <code>}</code></p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Output:    i1 contains 100                f1 contains 200</p> </div> <p>(ii) <code>#include&lt;_____&gt;</code>  <code>#include&lt;_____&gt;</code>  <code>void main()</code>  <code>{</code>  <code>    char str1[]="UPES", str2[20]="Dehradun";</code>  <code>    int i=_____, j=_____;</code>  <code>    puts(_____);</code>  <code>    puts(_____);</code>  <code>}</code></p>	<p><b>20</b></p>	<p><b>CO2 + CO3</b></p>

```

while(str1[i]!= ___)
{
    i++;
}
while(str2[j]!= ___)
{
    str1[i]=str2[j];
    j++;
    i++;
}
str1[i]=___;
printf("%s\n",str1);
}

```

<p>Output: UPES Dehradun UPESDehradun</p>
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(5 + 5 = 10 Marks)

b) If required, rectify the code snippets provided below and predict the correct output. (Assume that all the necessary header files are already included.)

(i) int main()

```

{
    int arr[] = {10, 20, 30, 40, 50};
    int *ptr = arr + 2;
    printf("%d\n", *ptr++);
    printf("%d\n", (*ptr)++);
    printf("%d\n", *ptr); // What is the output here?
    return 0;
}

```

(ii) int multiply(int a, int b)

```

{
    return a * b;
}
int main()
{
    int (*operation)(int, int)=&multiply;
    int result = operation(4, 7);
    printf("Result: %d\n", result);
    return 0;
}

```

	<pre>(iii) void main() {     int A;     A=2*23,1+10,2*35;     printf("\n\n A is\t%d\n",A); }  (iv) void main() {     char first[]="Mumbai";     char sec[5]="Delhi";     char third[7]="Compute";     printf("%c\t%c\tEND1",first[5],sec[4]);     printf("\n%c\t%c\tEND2\n%c\n",first[6],third[7],'\0'); }</pre>		
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(2.5 x 4 = 10 Marks)