



**SECTION B**

<b>Q 7.</b>	Show, with the aid of a diagram and relevant calculations, how histogram equalization changes the distribution of pixel values in a histogram. You may choose any arbitrary values for frequencies limited to just 6 grey values.	<b>10</b>	<b>CO3</b>																																																																
<b>Q 8.</b>	a) What would be the advantage of displaying various wavelength ranges or channels, in combination as color images as opposed to examining each of the images individually? Give a suitable example.	<b>5</b>	<b>CO1</b>																																																																
	b) What are Atmospheric windows and their importance in remote sensing? Give wavelength range for any one atmospheric window.	<b>4+1</b>																																																																	
<b>Q 9.</b>	Below is an Error Matrix resulting from a Data Analysis. Calculate the Omission error, Producer's Accuracy, Commission error, User's Accuracy and Overall Accuracy for <b>Water, Cultivated Land and Barren Land.</b>	<b>10</b>	<b>CO4</b>																																																																
	<table border="1"> <thead> <tr> <th>Classification Data</th> <th>Water</th> <th>Sand</th> <th>Forest</th> <th>Urban</th> <th>Cultivated land</th> <th>Barren land</th> <th>Row Total</th> </tr> </thead> <tbody> <tr> <td>Water</td> <td align="center">150</td> <td align="center">12</td> <td align="center">0</td> <td align="center">0</td> <td align="center">0</td> <td align="center">0</td> <td align="center">162</td> </tr> <tr> <td>Sand</td> <td align="center">0</td> <td align="center">56</td> <td align="center">0</td> <td align="center">10</td> <td align="center">0</td> <td align="center">0</td> <td align="center">66</td> </tr> <tr> <td>Forest</td> <td align="center">0</td> <td align="center">0</td> <td align="center">130</td> <td align="center">0</td> <td align="center">17</td> <td align="center">0</td> <td align="center">147</td> </tr> <tr> <td>Urban</td> <td align="center">0</td> <td align="center">0</td> <td align="center">0</td> <td align="center">126</td> <td align="center">0</td> <td align="center">15</td> <td align="center">141</td> </tr> <tr> <td>Cultivated land</td> <td align="center">0</td> <td align="center">0</td> <td align="center">20</td> <td align="center">0</td> <td align="center">78</td> <td align="center">12</td> <td align="center">110</td> </tr> <tr> <td>Barren land</td> <td align="center">0</td> <td align="center">0</td> <td align="center">5</td> <td align="center">24</td> <td align="center">15</td> <td align="center">115</td> <td align="center">159</td> </tr> <tr> <td>Column Total</td> <td align="center">150</td> <td align="center">68</td> <td align="center">155</td> <td align="center">160</td> <td align="center">110</td> <td align="center">142</td> <td align="center">785</td> </tr> </tbody> </table>	Classification Data	Water	Sand	Forest	Urban	Cultivated land	Barren land	Row Total	Water	150	12	0	0	0	0	162	Sand	0	56	0	10	0	0	66	Forest	0	0	130	0	17	0	147	Urban	0	0	0	126	0	15	141	Cultivated land	0	0	20	0	78	12	110	Barren land	0	0	5	24	15	115	159	Column Total	150	68	155	160	110	142	785		
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<b>Q 10.</b>	List the advantages of supervised classification over unsupervised classification. Illustrate the common classifiers in supervised classification with suitable diagrams.	<b>4+6</b>	<b>CO4</b>																																																																
<b>Q 11.</b>	Describe the image convolution process with suitable diagrams.	<b>10</b>	<b>CO3</b>																																																																

**SECTION C**  
**ATTEMPT any ONE.**

<b>Q12.</b>	Enumerate the various elements of Visual image interpretation with suitable examples. And discuss the importance of Digital image interpretation and its major functions in remote sensing.  <b>OR</b>  Describe the radiometric errors present in a raw satellite image. Also, explain how the satellite images can be rectified of such errors.	<b>20</b>	<b>CO2</b>
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