


1

Identify statements as True or False. \*   
(0/2 Points)

Justify your choice in Q 2. Maintain appropriate sequence while answering.

	True	False
Radiance is unit less	<input type="radio"/>	<input checked="" type="radio"/>
Lat long grids are perpendicular for UTM projection systems.	<input type="radio"/>	<input checked="" type="radio"/>
CYMK is related to colour printing.	<input checked="" type="radio"/>	<input type="radio"/>
All sensors of Chandrayan can be used for Earth observation.	<input type="radio"/>	<input checked="" type="radio"/>
Objects appear as white colour in 4-3-2 band combination will also appear as white colour in 3-4-2 band combination	<input checked="" type="radio"/>	<input type="radio"/>

2

Justify True and False \*  
(-/10 Points)

1. False -Unit of Radiance is W/m2 from the formula Radiance = Gain\*(Digital Number) + Bias
2. False- Lat long grids for UTM projection systems are not perpendicular since we installed the cylinder horizontally

2

Justify True and False \*  
(-/10 Points)

1. False -Unit of Radiance is W/m2 from the formula Radiance = Gain\*(Digital Number) + Bias
2. False-Lat long grids for UTM projection systems are not perpendicular since we installed the cylinder horizontally and it is looped around the Poles rather than the Equator.
3. True- To produce hard-copy output, CMY color space is typically employed. Theoretically, cyan, magenta, and yellow should yield pure black color, but in practice, they only produce a muted, dim black color.
4. False- Since the Earth's atmosphere absorbs light of such short wavelengths, some sensors, like the X-ray ones mounted aboard Chandrayan, are useless for Earth monitoring.
- 5- True- Even though the combination is different, the bands are the same, and the colour intensity is similar (near to the maximum value), since the object appeared to be white in one of the combinations.

3

A bridge is comprised of 40 pixels. If the pixel size is 10m. What would be the possible maximum length of the bridge?  
(-/2 Points)

400m

4

A push broom multispectral camera with 5 bands is scanning the earth with 10 km swath. In the first scanning, it generates a total of 600 pixels. What will be the spatial resolution of the image?  
(-/2 Points)

600

Class test 1 (Preview) Mic x Easy to use Online PDF ed x +

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4

A push broom multispectral camera with 5 bands is scanning the earth with 10 km swath. In the first scanning, it generates a total of 600 pixels. What will be the spatial resolution of the image?  
(-/2 Points)

83.3m

5

Arrange various steps of georeferencing in order \*   
(0/2 Points)

✓1 Selection of master and slave image

✓2 Identification of projection and geodetic system in slave image

✓3 Selection of GCP from master & slave images

✓4 Polynomial model building and RMSE calculation

✓5 Coordinate transformation

✗6 Resampling

✗7 Grid/ spatial resolution determination


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6

Which combinations of GCPs (4 dots with same colours) are suitable for georeferencing using toposheet?  
(-/3 Points)



☐ orange (O) dots

☐ Brown (B) dots

☒ Green (G) dots

☒ Yellow (Y) dots

☐ Pink (P) dots

Class test 1 (Preview) Mic x

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7

Arrange smaller to larger wavelength  
(2/2 Points)

✓1 X-ray

✓2 UV-ray

✓3 Blue

✓4 Green

✓5 NIR

✓6 TIR

✓7 Microwave

8

Read following array of numbers in BSQ format with 2 rows and 4 columns and 2 bands.  
120 100 255 259 340 350 259 101 102 105 107 108 111 355 342 255  
What will be the sequence of number for band 2, 1st row?  
(~2 Points)

☐ 100 340 259 355

Class test 1 (Preview) Mic x

Easy to use Online PDF ec x

+

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8

Read following array of numbers in BSQ format with 2 rows and 4 columns and 2 bands.  
120 100 255 259 340 350 259 101 102 105 107 108 111 355 342 255  
What will be the sequence of number for band 2, 1st row?  
(~2 Points)

☐ 100 340 259 355

☒ 102 105 107 108

☐ 120 100 255 259

☐ 101 102

☐ 255 259

9

After reading the above array, what will be the radiometric resolution of the image  
(~2 Points)

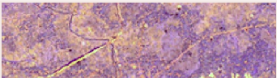
☐ 8-bit

☒ 9-bit

☐ 4-bit

☒ 10-bit

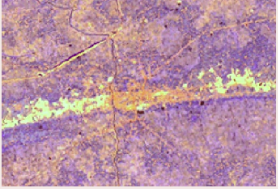
10



Class test 1 (Preview) Mic
Easy to use Online PDF ed

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10



What band combination of Landsat ETM imageries has been used for visualization  
(-/2 Points)

☐ 4-3-2  
☐ 2-3-1  
☒ 6-5-4  
☐ 4-5-6

11

What are 5 anthropogenic activities within the above FCC image? Write objects in sequence from largest to smallest area coverage. \*

(-/2 Points)

5 anthropogenic activities are Vegetation>City>Road>Building>Water body

Class test 1 (Preview) Mic
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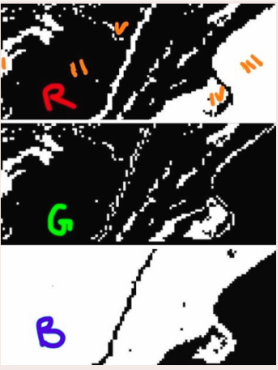
forms.office.com/Pages/ResponseDetailPage.aspx?id=lrXbcQRXNDWfJWrs3NQnjQpdXibo15NKrCKlTgRLoxURFI45FVSQk15WE9HVUhuRU05KWDd5TDM0SSQlQCNOPIWcu&rid=22&GetResponseToken=hBlbUYRxl6AxIRRNmuYG3tRp77gte...
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12

For 6 bit image, what will be the total possible number of colours?  
(-/2 Points)

262144

13



Elaborate & Explain colours for locations I to V. Follow RGB combination as marked on the figure.  
In which band combination, the large object in the southeast corner will appear as white colour? Justify. \*

(-/5 Points)

Location I: White is all B, G, R as it is white in color



Elaborate & Explain colours for locations I to V. Follow RGB combination as marked on the figure.

In which band combination, the large object in the southeast corner will appear as white colour? Justify. \*

(-/5 Points)

Location I - White in all R,G,B so it is white in color  
Location II - Black in R, G and white in B so it will have a blue color  
Location III - White in only R and black in G,B so it will have a Red color  
Location IV - White in all RGB so it will have white color  
Location V - White in all RGB so it will have white color  
6-5-4 band combination will make the southeast corner appear white since Location III object is Red in color and the band combination only involves TIR, SWIR and NIR

14

Propose colours for locations I to V respectively. Follow RGB combination as marked on the figure. \*

(-/2 Points)

- ☐ white, cyan, red, white, magenta
- ☒ white, blue, red, white, white
- ☐ blue, white red, white, white
- ☐ yellow, blue, red, white, white