

2020

## ENVIRONMENTAL SCIENCE

[HONOURS]

Paper : X

[PRACTICAL]

Full Marks : 80

Time : 4 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give answers in their own words as far as practicable*Answer any **four** from the following:  $4 \times 20 = 80$ 

1. How do you prepare a standard curve? Define primary and secondary standard solutions with examples. Write down the working principle of a high-volume sampler with diagram. State the Lambert-Beer's Law. How do you calculate concentration from the absorbance calibration curve?  $4+4+6+2+4=20$
2. State principles and procedure used for estimation of SO<sub>x</sub> and NO<sub>x</sub>. Name the absorbing reagents of SO<sub>x</sub> and NO<sub>x</sub> with their chemical formulae.  $(8+8)+(2+2)=20$

3. Describe the principle and procedure of cytological squash preparation of onion root tip. Draw four mitotic stages as found under microscope and state identifying salient features for each stage.  $3+7+10=20$
4. (a) How do you distinguish between a standard False Color Composite (FCC) Image and a Single Band Image of visible region?  
(b) Name the tools by which you can interpret a FCC image and state their working principles.  
(c) Why deep water bodies appear black in the FCC imagery? Explain your answer.  $5+10+5=20$
5. (a) What is Parallax in aerial photography? State the difference between vertical aerial photography and oblique aerial photography.  
(b) State and explain how to generate thematic layers on land-use change exercise.  $4+6+10=20$