

**U.G. 6th Semester Examination - 2020****BOTANY****Course Code : BBOTDSHC6****Course Title : Stress Biology**

Full Marks : 30

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **ten** from the following: 1×10=10

- What are the Edaphic factors?
- What are the Glycophytic plants?
- What is Osmotic Potential ( $\psi_s$ )?
- What is cavitation?
- Write down the name of two toxic ions.
- Write down the name of two salt sensitive plants.
- Write down the name of two high temperature sensitive respiratory enzymes.

*[Turn over]*

- What are the deciduous plants?
- What are the trichomes?
- Write down the name of two compatible osmolytes.
- What is aerenchyma?
- What are the functions of catalase enzyme?
- Write down the different types / forms of SOD.
- Write down the name of two lipid solvable antioxidant molecules.
- What is photoinhibition?

2. Answer any **five** from the following: 2×5=10

- What is phenotypic plasticity? Give an example. 1+1
- What is adaptation? Give an example. 1+1
- What is relative water content (RWC)? Mention its importance. 1+1
- What is epinasty? Give an example. 1+1
- What are the compatible osmolytes? Mention its importance. 1+1
- What is reactive oxygen species (ROS)? Give two examples. 1+1

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- g) What are the antioxidant molecules? Give an example. 1+1
- h) What is water potential ( $\psi_w$ )? Write down its components. 1+1
3. Answer any **two** from the following: 5×2=10
- a) Briefly describe the different types of antioxidant enzymes. 5
- b) How does compatible osmolyte adjust osmotic pressure ( $\psi_s$ ) of the cells under water deficit condition? What are the differences between paraheliotropic and diaheliotropic leaves? 3+2=5
- c) How does salinity stress effect plant growth and development? Why are the salinity and drought similar type of stress to plants? 3+2=5

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