

P26/HSC146/EE/20160522

Time : 3 Hours

Marks : 80

Instructions :

1. All Questions are Compulsory.
 2. Each Sub-question carry 5 marks.
 3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
 4. Question paper of 80 Marks, it will be converted in to your programme structure marks.
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1. Solve any **four** sub-questions.
 - a) Explain the process and importance of tinting. 5
 - b) Explain cemented positive lenticular lenses and Univis bifokat lenticular lenses. 5
 - c) Define and Explain hard coat. 5
 - d) Mention any five point regarding advantages and disadvantages of polarizing filters. 5
 - e) Explain Split trifocals with diagram. 5

2. Solve any **four** sub-questions.
 - a) Explain the process of polarizing filters. 5
 - b) Explain the process of Anti-Reflection coating. 5
 - c) Explain manufacturing process of Photochromatic filters. 5
 - d) Explain Aspheric lenses. 5
 - e) Explain Fresnel prisms. 5

3. Solve any **four** sub-questions.
- a) Explain in detail about polarized and unpolarised light. Add a note on 'Brewster's law'. 5
 - b) Explain principle of ARC lenses. 5
 - c) Differentiate between hard design, soft design and advanced soft design. 5
 - d) Explain cemented concave lenticular lenses and cemented convex lenticular lenses. 5
 - e) What are tinted lenses? Write about the following tints : Pink, Brown, Gray, Yellow. 5
4. Solve any **four** sub-questions.
- a) Explain iso-cylinder and iso-spherical plots in progressive lenses. Write its application. 5
 - b) Draw neat labelled diagram of progressive lenses. Explain all facial measurements required for fitting progressive lenses. 5
 - c) Write in detail about Photochromatic lenses. Explain factors affecting its performance. 5
 - d) A patient wearing progressive lenses, complains that he has to lift his chin up to read newspaper, how will you go about evaluation, explain all probable reasons for non-adaptations and solution for the same. 5
 - e) Calculate reflectance and transmission for RI 1.498 and 1.67. What will be the best option for the patient for refractive error $-6.50D$ in both eyes. 5

