Rajiv Gandhi University of Health Sciences, Karnataka

Final year B.Sc. (Nursing - Basic) Degree Examination – Mar 2013

Time: Three Hours **Max. Marks: 100 Marks**

Optometric Optics

Q.P. Code : 1631

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Four) **4 x 10 = 40 Marks**

1. Briefly explain the principles of single layer anti-reflection coating.
2. Briefly explain manufacture of fused bifocal in detail.
3. Explain the properties of crossed cylinders with help of example.
4. Mention the various parts of a frame with the help of a diagram. explain the various types of frames in detail
5. Find the sph-cyl equilent of following cross cylindrical lens +2.0.0 D cyl @ 20^0 /+4.0 D cyl @ 80^0

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

6. Explain about datum system in briefly.
7. Describe the effects of distortion in high powered plus and minus spectacle lenses.
8. What is called rotation test? Explain briefly.
9. Briefly explain the image jump in bifocal lens.
10. Indication and contraindications of progressive lens
11. Transpose the following into the alternate sphero cylinder form.
    a) +0.50 Dsph/+1.50 D cyl @160 b)-3.25D sph / +1.75 D cyl @ 35
12. Explain advantages of plastic lenses over glass.
13. Calculate the edge substance 'e' of a plano concave lens made in crown glass (1.523) of surface power -10.0 D , diameter of lens 44 mm and center thickness 0.6mm
14. Derive the sag formula

SHORT ANSWERS **10 x 2 = 20 Marks**

15. What is the substance used in the production of spectacle lenses.
16. What is surface power? Explain briefly.
17. What is abbey number give some example
18. Advantages of aspheric lens
19. What is called transposition? Explain with example.
20. Calculate the prismatic effects produced when a -5.0 D lens is decentred 4mm up wards
21. Define the prism dioptre and state its advantage as a unit of prism measure.
22. Mechanical requirement of bifocal lenses.
23. Explain the term front till bend and length till bend
24. High index lens

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