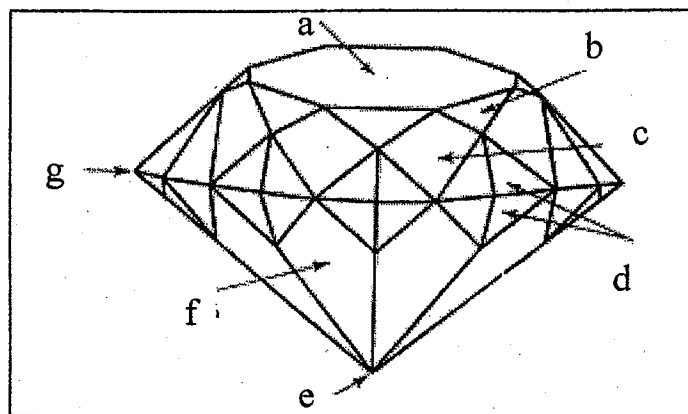




Duration: Two (02) hours

Total five (05) questions
Answer all questions

01. i. Describe the purpose of gemstone fashioning. [05 marks]
ii. Briefly explain the differences between cabochon cuts and faceted cuts. [05 marks]
iii. Describe different types of cabochon cuts with appropriate illustrations. [10 marks]
02. i. Explain how the refractive index of a gem material together with facet angles governs its brilliance. Use schematic diagrams to illustrate your answer. [05 marks]
ii. Give the names of different facets of the faceted gemstone shown in this diagram. [05 marks]



- iii. What are the two main cuts in faceted gemstones? Give examples for each. [05 marks]
iv. Describe the modifications and variations of the above two cuts. [2.5 marks]
v. Distinguish between *intaglios* and *cameos* in carved gemstones. [2.5 marks]

03. i. What are the main considerations in cutting a gemstone? Briefly explain each aspect. [7.5 marks]
- ii. Explain the gemstone cutting steps in detail and describe the equipment used in each operation. [12.5 marks]
04. i. Write a brief account on world's diamond trade and diamond valuation. [10 marks]
- ii. Discuss diamond cutting steps and required equipment. [10 marks]
05. Write short notes on the following gem enhancement techniques.
- a) Heat treatment
 - b) Diffusion
 - c) Filling
 - d) Irradiation
- [20 marks]