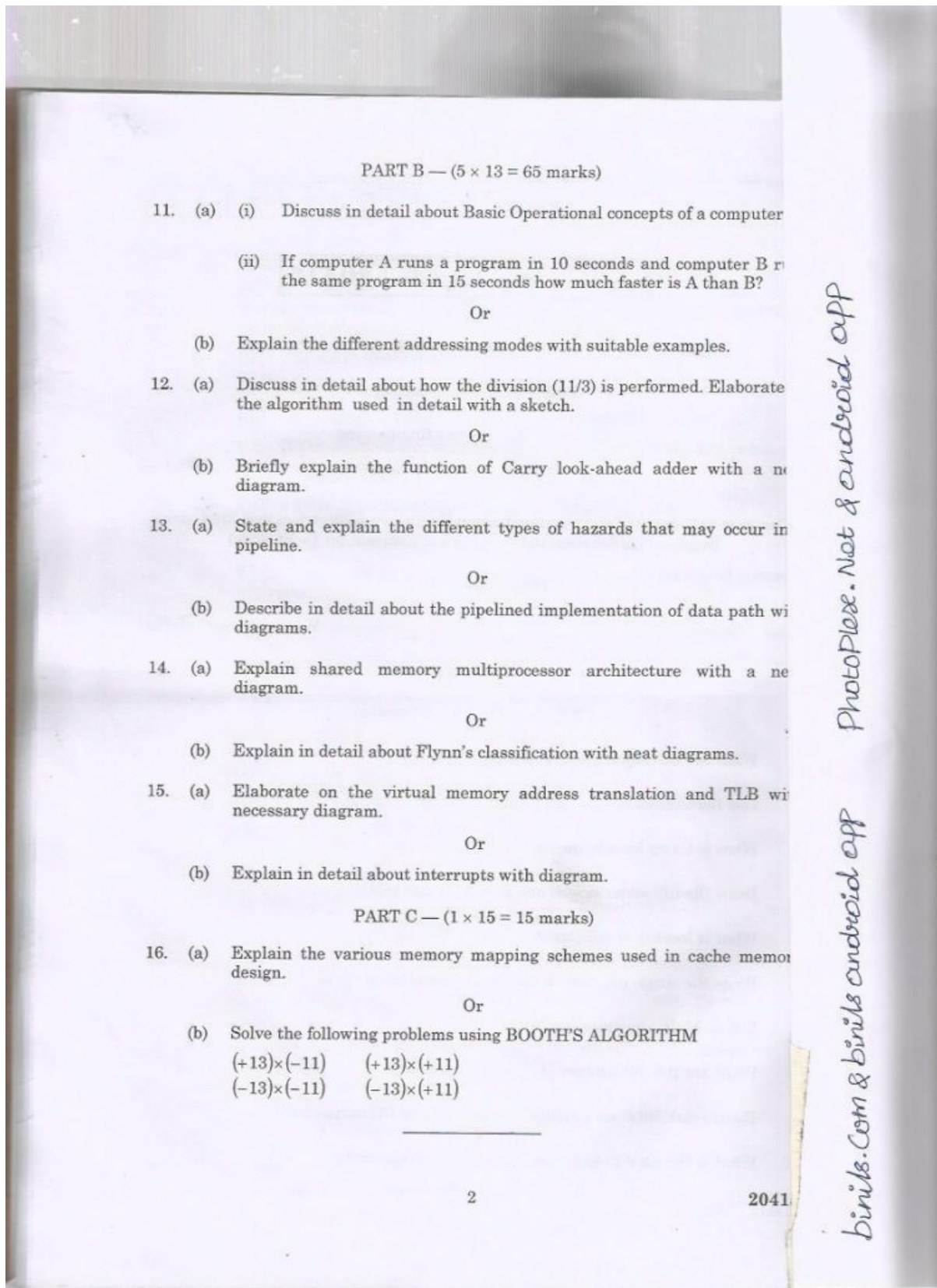


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PART B — (5 × 13 = 65 marks)

11. (a) (i) Discuss in detail about Basic Operational concepts of a computer
(ii) If computer A runs a program in 10 seconds and computer B runs the same program in 15 seconds how much faster is A than B?

Or

- (b) Explain the different addressing modes with suitable examples.

12. (a) Discuss in detail about how the division $(11/3)$ is performed. Elaborate the algorithm used in detail with a sketch.

Or

- (b) Briefly explain the function of Carry look-ahead adder with a neat diagram.

13. (a) State and explain the different types of hazards that may occur in pipeline.

Or

- (b) Describe in detail about the pipelined implementation of data path with neat diagrams.

14. (a) Explain shared memory multiprocessor architecture with a neat diagram.

Or

- (b) Explain in detail about Flynn's classification with neat diagrams.

15. (a) Elaborate on the virtual memory address translation and TLB with necessary diagram.

Or

- (b) Explain in detail about interrupts with diagram.

PART C — (1 × 15 = 15 marks)

16. (a) Explain the various memory mapping schemes used in cache memory design.

Or

- (b) Solve the following problems using BOOTH'S ALGORITHM

$$(+13) \times (-11) \quad (+13) \times (+11)$$

$$(-13) \times (-11) \quad (-13) \times (+11)$$