Generate a lecture scribe(Latex code) intended strictly as exam-oriented reference material for the provided lecture content. This scribe must faithfully reconstruct what was taught in the lecture so that a student can rely on this document alone for revision during a closed-notes or reading-based examination.

Use only the provided context, which consists of the lecture slides. Do not introduce any concepts, examples, interpretations, intuitions, results, proofs, derivations, or explanations that are not present in the provided material. Do not exceed the scope of the given content in any way.

Write the scribe using such an approach, where reasoning is made explicit within the scribe itself. While writing, reason step by step through all definitions, assumptions, notations, derivations, proofs, and worked examples exactly as they appear in the lecture material, ensuring that each logical step is clearly articulated and traceable to the context. All reasoning must originate only from the provided material.

The scribe must include, wherever they appear in the context, formal definitions, precise notation, assumptions and conditions, statements of results or theorems, step-by-step proofs or derivations, and worked examples with intermediate steps shown exactly as presented in the lecture. Logical dependencies between concepts must be made explicit so that the flow of ideas mirrors the lecture structure.

The writing must maintain a formal academic tone suitable for exam revision. The organization should follow the lecture's progression and structure, using clear sections and sub-sections written strictly in paragraph and sub-paragraph form. Do not use bullet points, numbered lists, or pointers anywhere in the document.

The length of the scribe must be no less than 8 pages, assuming standard academic formatting. The content should be sufficiently detailed to support exam preparation, without adding summaries, simplifications, personal interpretations, or creative explanations.

Do not explain how the scribe is written. Do not comment on the process. Do not add any material beyond what is explicitly present in the provided context. The final output must read as a complete, self-contained lecture scribe suitable for direct submission.