

Fifth Edition

First and Foremost MCQs Book in Biochemistry by Subject Expert for PGMEEs

Review of **Biochemistry**

for NEXT Based on Latest PGMEE Pattern

Salient features

- Clinical case based questions as per current examination pattern given in plenty along with their biochemical explanations.
- Brief review of the topic at the beginning of each chapter gives the concept of the topic
- All undergraduate practical tests are included along with their relevance in clinical settings
- Various storage disorders are given in simple tabular format with the purpose of answering MCQs properly
- One liners compiled for quick revision

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is currently Professor of Biochemistry, Dr Baba Saheb Ambedkar Medical College and Hospital, New Delhi. She has been teaching biochemistry for medical graduates preparing for various postgraduate medical entrance examinations for past 12 years. She has skill of making complex topic simple and relevant which help students to solve biochemistry questions in the PG entrance exam easily. She is popularly known as a teacher of biochemistry with strong clinical correlation of the topics. In addition to this book she has authored many other books like *Textbook of Biochemistry with Clinical Approach based on CBME*, *Concepts in Biochemistry*, *Practical Book of Clinical Biochemistry based on CBME* and *Logbook for foundation course* all brought by CBSPD.



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Agrawal

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Questions till January 2020 included with their explanations

Clinical case based questions with biochemical explanations
as per current examination pattern

Clinical
Approach to
Biochemistry

Poonam Agrawal



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to
my beloved parents
Dr Shri Prakash Agrawal and
Smt Manju Agrawal



Preface to the Fifth Edition

The pattern of examination for postgraduate medical entrance examination (PGMEE) has seen paradigm shift in recent time from being more of a theoretical and factual based questions to questions which are more conceptual and importantly more clinical.

This present edition has been revised keeping in mind the latest modifications in the examination pattern and lot of clinical scenarios and their biochemical approach has been described in lucid manner which is easy to grasp and retain. This helps medical PG aspirants to better prepare for the exam and keep them at par in this highly competitive exam.

I sincerely hope that this attempt to present the subject biochemistry for PGMEE in concise, conceptual and clinical way will be appreciated by medical PG aspirants, and like other previous editions, this edition too will prove an important and indispensable tool for students preparing for various PG medical entrance examination.

Feedback and suggestions are welcome

Wish you all the best!!

Poonam Agrawal

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Preface to the First Edition

Since the time I was a student preparing for PG entrance examination, I always felt the need of a concise and crisp book in biochemistry, which could give an easy and quick approach to the students preparing for various postgraduate medical entrance examinations. I felt the need more often now when I find students preparing for such examinations, repeatedly asking me “Which book is to be followed for biochemistry?”

There were a few books in biochemistry meant for students preparing for such examinations but their content never satisfied my idea of an ideal book for PGMEEs. The description in them is question-oriented, haphazard and incoherent. This makes it very difficult to build a clear concept about a topic. At the end, the students find themselves in a complete mess as they have to put in a lot of effort to connect the things together on their own.

This book is exactly the need of the hour in which all the topics are given in simple, concise and coherent manner covering those aspects of biochemistry which are frequently targeted in PGMEEs. To keep the book handy, old and forgotten topics have been omitted.

The chapter starts with clear explanation of various principles and steps of the pathway. Frequently asked points in PGMEEs are bold and written as^Q. This makes it easy for the student to go through the topic in short time. At the end of each chapter there are multiple choice questions, many of which have already been asked in various examinations, but a large number of them are totally new questions which I feel are important to share with the students. To keep this book handy, old unnecessary questions have been omitted, the questions included in this book are all significant one.

I understand the importance of visual memory for which a number of diagrams and tables are included in this book. Diagrams and tables given in this book are very simple and easy to understand.

Poonam Agrawal

Acknowledgments

I thank Almighty for His blessings which gives me courage to work to fulfill my dreams. I will always be highly indebted to all my teachers who have taught me whatever I know.

My students who constantly engage me with their intelligent doubts certainly deserve special thanks from bottom of my heart as their doubts become the source of motivation for me to learn and share.

I thank all my friends for sharing my joy and sharing my pain at odd times, encouraging me to do better work everytime.

Finally, I am extremely thankful to the whole team of CBS Publishers & Distributors, Mr SK Jain, CMD; Mr YN Arjuna, Senior Vice President—Publishing, Editorial and Publicity; Ms Ritu Chawla, General Manager; Ms Jyoti Kaur, Mr Manish Raj, Mr Neeraj Prasad, Mr Kshirod and Mr Neeraj for their untiring support at every level of making this book.

Word cannot express the gratitude towards my husband **Dr Mohit Agarwal** for his unconditional support and guidance without which it is very difficult to complete such task.

My baby Misti deserves special thanks for her little charm which fills my life with joy.

Poonam Agrawal

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Further Reading

1. *Harper Illustrated Biochemistry*, 31st edn.
2. *Lehninger Biochemistry*, 6th edn.
3. *Deolin Biochemistry with Clinical Correlation*, 7th edn.
4. *Lippincott's Biochemistry*, 7th edn.

Abbreviations

ACP	Acyl carrier protein	MSUD	Maple syrup urine disease
AdoMet	S-adenosyl methionine	NAD	Nicotinamide adenine dinucleotide
ALA	δ -aminolevulinic acid	NADP	Nicotinamide adenine dinucleotidephosphate
BAC	Bacterial artificial chromosome	NANA	N-acetyl neuraminic acid
CAP	Catabolite gene activator protein	ODC	Oxygen dissociation curve
cDNA	Complimentary DNA	OGTT	Oral glucose tolerance test
CoA or CoASH	Coenzyme A	OTC	Ornithine transcarboxylase
CoQ	Ubiquinone	PCR	Polymerase chain reaction
CPS	Carbamoyl phosphate synthetase	qPCR	Real time PCR
CPT	Carnitine palmitoyl transferase	Pi	Inorganic orthophosphate
ETC	Electron transport chain	PIT	Phenyl-iso-thiocyanate
FDNB	1-fluoro, 2,4-dinitrobenzene	PLP	Pyridoxal 5 phosphate
FIGLU	Formiminoglutamic acid	PRPP	Phosphoribosylpyrophosphate
FMN	Flavin mononucleotide	RDS	Respiratory Distress syndrome
G6PD	Glucose-6-phosphate dehydrogenase	RNAase	Ribonuclease
GaliPUT	Galactose-1-phosphate uridyl transferase	RQ	Respiratory quotient
GLUT	Glucose uptake and transport protein	RQ	Respiratory quotient
GPO	Glutathione peroxidase	SAM	S-adenosyl methionine
HGA	Homogentisic acid	snRNP	Small nuclear ribonuclear protein
HMG-CoA	Hydroxy methyl glutaryl CoA	SOD	Superoxide dismutase
hnRNA	Heterogenous nuclear RNA	XALD	X-linked adrenoleukodystrophy
		YAC	Yeast artificial chromosome

