



MEDICAL PHYSICS FOR DIAGNOSTIC RADIOLOGY

ADMISSION EXAMINATION CONTENT GUIDELINE



EXAMINATION MODEL

Blueprint outlines:

Evaluation Item	Sections	Percentage (%)
(50 MCQs, 1.5 hours)	1. Diagnostic Medical Imaging Modalities.	8%
	2. Fundamental Physics of Diagnostic Imaging.	16%
	3. Medical Imaging Instrumentation and Systems.	14%
	4. Image Quality, Performance Evaluation, and Quality Control.	18%
	5. Radiation Dosimetry: Quantities, Units, and Measurement.	12%
	6. Radiation Biology and Biological Effects of Ionising Radiation.	8%
	7. Radiation Protection and Safety in Diagnostic Imaging.	12%
	8. Radiation Detection and Survey Instrumentation.	6%
	9. Professional Practice, Ethics, and Patient Safety.	6%

Note:

- **Blueprint distributions of the examination may vary by up to $\pm 5\%$ in each category.**
- **Percentages and content are subject to change at any time. See the SCFHS website for the most up-to-date information.**

References

- Bushberg, J.T., Seibert, J.A., Leidholdt, E.M. and Boone, J.M. (2020) *The Essential Physics of Medical Imaging*. 4th edn. Philadelphia: Wolters Kluwer.
- Huda, W. (2016) *Review of Radiologic Physics*. 4th edn. Philadelphia: Wolters Kluwer.
- International Atomic Energy Agency (2014) *Diagnostic Radiology Physics: A Handbook for Teachers and Students*. Vienna: IAEA.
- Hall, E.J. and Giaccia, A.J. (2019) *Radiobiology for the Radiologist*. 8th edn. Philadelphia: Wolters Kluwer.
- International Atomic Energy Agency (2010) *Radiation Biology: A Handbook for Teachers and Students*. Vienna: IAEA.
- International Commission on Radiological Protection (2007). *The 2007 Recommendations of the International Commission on Radiological Protection* (ICRP Publication 103). *Annals of the ICRP*, 37(2–4).
- International Commission on Radiological Protection (2007) *Radiological Protection in Medicine* (ICRP Publication 105). *Annals of the ICRP*, 37(6).
- International Atomic Energy Agency (2014) *Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards* (GSR Part 3). Vienna: IAEA.
- American Association of Physicists in Medicine (2015) *Acceptance Testing and Annual Physics Survey Recommendations for Gamma Camera, SPECT, and SPECT/CT Systems* (AAPM Report No. 177). College Park, MD: AAPM.
- International Atomic Energy Agency (2012) *Quality Assurance Programme for Computed Tomography: Diagnostic and Therapy Applications* (Human Health Series No. 19). Vienna: IAEA.
- American Association of Physicists in Medicine (n.d.) *AAPM Reports and Task Group Documents*. College Park, MD: AAPM.
- Institute of Physics and Engineering in Medicine (n.d.) *Diagnostic Imaging Physics and Quality Assurance Resources*. York: IPEM.

- Diagnostic Radiology Physics, A Handbook for Teachers and Students; ISBN: 978-92-0-131010-1; IAEA_publications.



Note: This list is intended for use as a study aid only. SCFHS does not intend the list to imply endorsement of these specific references, nor are the exam questions necessarily taken from these sources.



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