

MP 312

APRIL 1997

DIPLOMA IN MEDICAL RADIOLOGY - DIAGNOSIS

(New Regulations)

Paper I - MEDICAL RADIATION PHYSICS AS
APPLIED TO RADIODIAGNOSIS

Time: Three hours

Max.marks:100

Answer All Questions

1. Discuss the physical principles of medical ultrasound. Highlight some of the important uses of ultrasound in diagnosis and treatment. (25)
2. What do you understand by digital subtraction angiography? Describe the uses. (25)
3. Write briefly on: (5x10=50)
 - (a) Non-ionic contrast media
 - (b) Construction of X-ray films
 - (c) Methods of limiting radiation from your X-ray tube
 - (d) Rapid film developer
 - (e) Angiographic catheters.

OCTOBER 1997

MS 312

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APPLIED TO RADIODIAGNOSIS

Time: Three hours

Max.marks:100

Answer All Questions

1. Describe the construction of the dark room of your department. (25)
2. Discuss the physical principles involved in a C.T. scan equipment. (25)
3. Write briefly on: (5x10=50)
 - (a) I_{131}
 - (b) Interaction of X-rays with matter
 - (c) Gamma rays
 - (d) Dental film
 - (e) Standard development of X-ray films.

APRIL 1998

[SV 333]

DIPLOMA IN MEDICAL RADIOLOGY — DIAGNOSIS.

(New Regulations)

**Paper I — MEDICAL RADIATION PHYSICS AS APPLIED TO
RADIODIAGNOSIS**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe the various radiation protection devices used in diagnostic radiology. (25)

 2. What are the components of X-Ray developer? Describe the action of each component. (25)

 3. Write briefly on : (5 × 10 = 50)
 - (a) Rectifiers.
 - (b) Linear tomography.
 - (c) PET.*
 - (d) X-Ray film.
 - (e) Transformers.
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APRIL 1999

[SG 1514]

Sub. Code : 3019

**DIPLOMA IN MEDICAL RADIOLOGY – DIAGNOSIS
EXAMINATION.**

(New Regulations)

**Paper I — MEDICAL RADIATION PHYSICS AS
APPLIED TO RADIO DIAGNOSIS**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. What is fluorescence? Describe in detail the designing of image intensifier. (25)
 2. Discuss in detail the principles of Helical Computed Tomography and its applications. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Intensifying screens.
 - (b) Air gap technique.
 - (c) Principles of DSA.
 - (d) Developer.
 - (e) Spinecho technique.
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OCTOBER 1999

[KA 1514]

Sub. Code : 3019

**DIPLOMA IN MEDICAL RADIOLOGY – DIAGNOSIS
EXAMINATION.**

(New Regulations)

**Paper I — MEDICAL RADIATION PHYSICS AS
APPLIED TO RADIODIAGNOSIS**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Draw a labelled diagram of Modern Rotating Anode X-ray tube. Discuss the major parts of the X-ray tube in production of X-rays. (25)
 2. Describe the components of a Manual X-ray film processing unit. Discuss the stages involved in film processing. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Negative contrast materials
 - (b) Parts of an X-ray cassette
 - (c) Bucky
 - (d) Hounsfield number
 - (e) Radiation Badge
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APRIL 2000

[KB 1514]

Sub. Code : 3019

**DIPLOMA IN MEDICAL RADIOLOGY –DIAGNOSIS
EXAMINATION.**

(New Regulations)

**Paper I — MEDICAL RADIATION PHYSICS AS
APPLIED TO RADIO DIAGNOSIS**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the construction of image intensifier. Add a note on cine radiography? (25)
 2. Draw the cross section of photographic X-ray film. Explain the chemical changes taken on exposure to X-rays. Mention briefly the details of processing a film.(25)
 3. Write short notes on the following : (5 × 10 = 50)
 - (a) Focussing grid
 - (b) Heel effect in radiography
 - (c) Electron
 - (d) Transformer
 - (e) Isotope.
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OCTOBER 2000

[KC 1514]

Sub. Code : 3019

**DIPLOMA IN MEDICAL RADIOLOGY — DIAGNOSIS
EXAMINATION.**

(New Regulations)

**Paper I — MEDICAL RADIATION PHYSICS AS
APPLIED TO RADIODIAGNOSIS**

Time : Three hours

Maximum : 100 marks

1. Describe briefly the structure and working of a modern diagnostic X-ray tube. (25)
 2. Discuss the various methods used to reduce radiation hazard in diagnostic radiology. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Grid.
 - (b) Film contrast.
 - (c) Film Badge.
 - (d) Automatic X-ray film processor.
 - (e) Safe Light.
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