Roll No._____

DRIT - 1st YEAR EXAMINATIONS; JUNE 2018
(SUB.: GENERATION& PROPERTIES OF X-RAY; PAPER CODE:- 05070107)
(Re-appear old course)

Total: 3 hours **Maximum Marks- 80**

Instructions:

1. Write your Roll No. on the Question Paper.
2. Candidates should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 min of the commencement of Exam. No complaint(s) will be entertained thereafter.
3. All question carry marks as noted against each question.
4. Draw Diagram Whenever required.

PART - A

Q.1 Attempt all questions: **(10x2=20)**

a) What is the uses of ammeter & voltmeter
b) Explain Lenz's Law of Electromagnetism
c) Write brief about characteristics of x-ray beam
d) Electromagnetic spectrum.
e) Thermionic emission.
f) Solid state rectifier.
g) Write a short note on Photo-timers.
h) What are the function of switches.
i) Brief Microfocus X-ray tube
j) What is AEC?

PART - B

Q.2 Attempt any eight questions: **(8x5=40)**

a) Explain the procedure of x-rays production.
b) Explain the factors affecting x-ray intensity.
c) Explain the principle used to achieve good image quality as well as heat dissipation from a single focal spot.
d) Explain the transformer law of voltage & current.
e) Explain filament circuit.
f) Explain Autotransformer.
g) Explain Half-Wave & full-Wave rectification & its advantages.
h) Explain the Tube Failure Causes.
i) Explain the tube housing cooling Chart.
j) Explain Metal-Ceramic X-ray Tube.

PART - C

Q.3 Attempt any two questions: **(2x10=20)**

a) Explain Rotating & Stationary X-Ray Tubes
b) Explain 3 phase generators.
c) Explain PACs

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Roll No_____

BRIT/DRIT - 1ST YEAR EXAMINATIONS; JUNE 2018
(SUB.: RADIATION PHYSICS; PAPER CODE:- 05020110/05070111)
(RE-APPEAR 2016 BATCH)

Time: 3 Hours **Maximum Marks: 80**

Instructions:

1. Write your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint(s) in this regard will be entertained thereafter.
3. Attempt the questions as per instruction mentioned with each part. Marks are indicated against each question.
4. Draw diagram wherever required.

UNIT-I

Attempt all following questions: **(10x2=20)**

1. What is Ohm's Law.
2. Explain Conductor, Semi-Conductor & Insulator.
3. Explain Electromagnetic Induction.
4. Filters used in X-ray Tube
5. Absorption Co-efficient
6. Write the indications of tube overload
7. Cones used during radiography.
8. Explain effect of kV &mAs.
9. Difference between bremsstrahlung & Characteristic X-rays.
10. Inverse Square Law.

UNIT-II

Attempt any eight questions: **(8x5=40)**

1. Explain exposure Switches & relay timers.
2. Explain Beam Limiting Devices.
3. Explain Electronic Timers.
4. Explain Heel Effect.
5. Explain Line Focus Principle.
6. Write brief about Grid Controlled X-ray Tube with its Advantages.
7. Write a short note on portable & non-Portable equipment's used in Radiography.
8. Explain x-ray tube equipment's with its working.
9. Explain Transformer
10. Write a short note on filament and rotating anode circuit.

UNIT-III

Attempt any two questions: **(2x10= 20)**

1. Explain Anode Cooling & Heating Chart.
2. Explain Digital Fluoroscopy.
3. Explain generators.

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