SPECIFICATIONS OF CR SYSTEM – SINGLE PLATE READER TYPE FOR DIGITAL RADIOGRAPHY

1. Digitizer (CR) system should have capacity to process more than 70 or more cassette/films per hour of 14 X 17" size.
2. Standard work station (Console) coupled with CR image storage capacity – at least 2000 images specify the numbers. It should have a resolution of 5 pixels/mm (Minimum) for standard resolution cassette & up to 20 pixels/mm or more.
3. Separate DICOM workstation in ultra modality with all processing facilities in a centralized reporting.
4. Other feature of CR system
   1. Image post processing.
   2. Window leveling
   3. Annotation
   4. Area of interest Zoom
   5. Magnification
   6. Flipping & panning
   7. Automatic exposure correction
   8. Pre view software
   9. Edge enhancement stepwise
   10. Contrast/ Brightness adjustment
   11. Shuttering / ROI Finder
   12. Application related software like Pediatric should be available- The system should have software & hardware to perform full leg/Full spine/Long Body imaging/ imaging stitching
   13. DICOM Print
   14. DICOM image output to network workstation
   15. Grid Pattern removal software & noise compression processing
   16. Gray Scale reversal
   17. Rotation
   18. Image preview time 25 to 60 Sec.(For large image)
   19. System should be fully compliant with DICOM 3
   20. Automatic cassette identification e.g. through bar code reader.
5. Laser camera with at-least three film size on line 14" X 17", 11" X 14" /10" X 14", 10" X 12" & 8" X 10"
6. Contrast spatial / Reading resolution 10 pixel / mm or more constant high resolution in all sizes.
   True size printing should be possible from reader console
   Automatic exposure correction & facility for maneuvering reading sensitivity manually.
   Gamma curves for multiple object intensity processing.
   Registration & cassette identification should be possible to be done before & after the exposure (Pre/ Post registration)

7. **Specification for Laser Camera**
   1. Mention Spatial resolution higher level preferable **minimum 500 DPI/PPI**
   2. Mention Gray Scale resolution : more than 12 bits preferable
   3. Mention Processing capacity/hour for (14" X 17") films , It should be more than **70 films/Hour**

8. **Acceptable film size:** 14" X 17", 11" X 14" /10" X 14", 10" X 12" & 8" X 10"etc.
   1. Online film sizes : **at least three film size**
   2. DICOM compatible

9. **CR workstation should have following feature**
   1. Multiple image printing with multiple format
   2. Measurement of image, insert scale
   3. Preloaded annotation
   4. DICOM CD writing & reading
   5. Image inverse, image flipping, image magnification , zooming
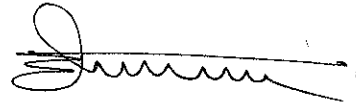   6. addition of patient's photograph on image

7. Reporting format
8. Image preview
9. image cropping
10. Printing multiple patient on one film
11. CD writing for multiple patient on one CD
12. Should have a hard disk of 80GB or more for storing image

10. **Please provide cassette for CR with PSP Plate (IP)**

14" X 17"
11" X 14"/10" X 14"
10" X 12"

Two cassette of each size should be supplied   8" X 10"

1   Suitable online UPS more than 30 minutes backup for whole system.
2   Reputed make 1.5 ton split A/C
3   Comprehensive 3 year guarantee of CR, imaging screens cassette and camera – whole system including A/C,
4   Spares & consumable parts should be available for 10 years
5   Installation list & company should have service center in Rajasthan.
6   AMC/CMC for 5 years, after completion of 3 year guarantee period
7   Firm should attach installation list in India of the model quoted out of which at least two installations should be in Govt. Hospital/ Govt. medical College institution.

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