

Amendment No.15**Date: 13.10.2014****Subject: Amendment no.15 to the Tender Enquiry Document**

- Ref: (i) Tender Enquiry No.: HLL/PCD/PMSSY/AIIMS-II/11/13-14 dated 19.12.2013.
(ii) Amendment No.1 dtd.21.01.2014.
(iii) Amendment No.2 dtd. 10.02.2014.
(iv) Amendment No.3 dtd. 27.02.2014.
(v) Amendment No.4 dtd. 14.03.2014.
(vi) Amendment No.5 dtd. 27.03.2014.
(vii) Amendment No.6 dtd. 16.04.2014.
(viii) Amendment No.7 dtd. 09.05.2014.
(ix) Amendment No.8 dtd. 17.05.2014.
(x) Amendment No.9 dtd. 19.06.2014.
(xi) Amendment No.10 dtd. 21.07.2014
(xii) Amendment No.11 dtd. 16.08.2014
(xiii) Amendment No.12 dtd. 02.09.2014
(xiv) Amendment No.13 dtd. 15.09.2014
(xv) Amendment No. 14 dtd. 19.09.2014

The following changes are incorporated to the referred tender document/ subsequent amendments published thereafter:

Section I
Notice Inviting Tenders(NIT)

(1) For:-

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	19.12.2013 to 13.10.2014, 1000 hrs to 1600 hrs IST
vi.	Closing date & time for receipt of Tender	14.10.2014, 1200 hrs IST
vii.	Time and date of opening of Techno – Commercial tenders	14.10.2014, 1230 hrs IST

Read as:-

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	19.12.2013 to 28.10.2014 , 1000 hrs to 1600 hrs IST
vi.	Closing date & time for receipt of Tender	29.10.2014 , 1200 hrs IST
vii.	Time and date of opening of Techno – Commercial tenders	29.10.2014 , 1230 hrs IST

Note: If EMD is submitted in the form of BG, then the validity of the BG should be at least 165 days from the date of tender opening, i.e, upto 12.04.2015.

Section VII
Technical Specifications

Item No: 12-A
Advance High Energy Linear Accelerator System

Added Para:

The Turnkey Scope of Work – Advanced High Energy LINAC

1. The prospective bidders shall inspect the proposed site for ADVANCED HIGH ENERGY LINAC at each of the AIIMS (Bhubaneswar, Jodhpur, Raipur, Bhopal, Patna, and Rishikesh) and Dr. Rajendra Prasad Govt. Medical College, Tanda before submission of tender.

Tenderer's are advised to acquaint themselves with access to site, location of work, local labour problems and any other matter relating to availability and carriage of construction materials. Adopting standard operation/ incorporating IG procedure for GRIHA requirement during construction/ post construction.

The construction of the concrete shell of the Bunker (LINAC ROOM) is in the scope of the respective institute. The turnkey work shall include all other site preparation work required the installation and functioning of ADVANCED HIGH ENERGY LINAC at the proposed site.

The bidders are required to submit the plan for the ADVANCED HIGH ENERGY LINAC Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of ADVANCED HIGH ENERGY LINAC Centre.

2. While preparing the plan, the following aspects have to be addressed.

- a) Care should be taken to provide easy negotiation of the patient stretchers / trolleys through corridors and doors.
- b) Adequate Radiation shielding as per AERB norms
- c) Furniture like desk, chairs, shelves etc.
- d) Patient stretcher and other furniture / accessories to make the ADVANCED HIGH ENERGY LINAC functional.

3. The cost of Turnkey for the area measuring 220m² and Air-conditioning of 27 TR capacity will be considered for Ranking / Evaluation purpose.

4. Bidders have to quote the Unit Rates of the following components of turnkey work and detailed BOQ should be mentioned:

- a) Civil works - sq.ft/cubic ft, running metre, Kg etc
- b) Electrical work like per metre price, unit price for panel, isolation, etc
- c) Public health (plumbing and sanitary fittings) like per metre length of pipe, number of points, etc
- d) Air Conditioning (HVAC) – rate per tonnage, type of false ceiling and sq.ft rate, etc
- e) Interior Furnishing & Furniture
- f) Miscellaneous

Scope of work for turnkey:

The bidder should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed **ADVANCED HIGH ENERGY LINAC Centres** along with technical bid of the tender.

The **ADVANCED HIGH ENERGY LINAC CENTRE** shall consist of the following rooms:

- a. LINAC Treatment Room
- b. Control room
- c. Equipment room
- d. Change room
- e. Treatment Planning Room
- f. Patient waiting area
- g. Chiller room / enclosure
- h. AHU room

Construction work to be done as per the final plan / scheme approved by the Consignee.

The actual area of turnkey works done will be considered for payment, based on the site measurements and the unit rate quoted by the bidder.

CIVIL WORK

1. Construction / modification work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
Construction renovation/ modification demolition, exaction, filling work including construction of full or half brick wall if required, plastering, flooring as per the approved plan and equipment layout plan. Necessary openings/ niches/ cutouts, wherever required as per drawings and asked for by the Engineer-In-Charge, shall be provided by the contractor without any extra cost.
2. Making surface good for floor modification for installing the LINAC.
3. Platform for unloading and shifting the LINAC; if necessary.
4. Cable tray, trench & channel – necessary trenches, cable tray and channels at required locations.

a) Flooring

1. 600 x 600 mm vitrified tiles with 100mm tile skirting to match in LINAC room , control room, lobby and patient preparation areas, Consultant's room, TPS room etc.
2. 50 mm thick cement concrete flooring with Vinyl flooring in LINAC equipment / UPS room.

Note: Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600mm (thickness to be specified by the manufacturer) Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorption less than 0.08%) flooring in pattern as detailed in drawing or as directed by the EIC and grouted with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the EIC. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & specification and as directed by EIC with 100mm tile skirting to match in LINAC room, control room, lobby and patient preparation areas, consultant's room, TPS room etc.

Mode of measurement (finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying levelling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.

3. 50 mm thick cement concrete flooring at all heights and locations including scaffolding, preparing the surfaces, neat cement finishing to correct line or as required to receive architectural finish, level and plumb, curing where ever required complete as per specifications and drawings, with Vinyl flooring in LINAC equipment/UPS room.
4. The entire complex will be made rodent/pest proof.

b) Painting

1. Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas except LINAC ROOM.
2. LINAC ROOM Walls – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.

Note: Providing all tools, tackles, materials, manpower for applying plastic enamel paint over 2 coats of wall putty including primer in all areas except LINAC ROOM, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/ POP surface, POP board/ gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/ apparatus etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & specification and as directed by EIC.

3. LINAC ROOM Walls – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.

c) False Ceiling

Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

PLUMBING WORK

1. All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.
2. Chiller Piping and control panel.

Note:

1. Tenderer's are advised to visit the site of work to acquaint themselves about the levels of sub soil water, drainage facility for dewatering, accessibility to site etc. and quote the rates accordingly.
2. All sanitary wares & CP brass fitting & fixtures shall be of first quality with ISI mark (unless otherwise specified) and shall be of the make as per the latest approved list of materials as per list of approved make/model, if any. They shall be got approved by the Engineer-in-charge before incorporating in the work.

3. All the items include testing after completion of the work. Concealed/underground GI pipe line is to be wrapped with hessian cloth and painted with two coats of anticorrosive paint.

Disposing off: The surplus excavated materials by mechanical transport lead up to 2KM to the nearby dumping pits/dumping areas with in AIIMS/Tanda campus identified by Engineer in charge, including all lifts, loading, unloading, stacking etc. complete as per specifications & as directed by the EIC.

ELECTRICAL WORK

1. The supplier shall be required to specify the total load requirements for the LINAC centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the LINAC centre. The mains panel & distribution panel should be provided by the supplier. Few lights in each room shall be connected to the UPS to provide emergency lighting.
2. The electrical work shall include the following:
 - a. Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
 - b. All the internal wiring including that of telephone, LAN, DICOM & PACS etc. will be of concealed variety.
 - c. Double earthing with copper plate for the LINAC and all accessories should be as well as the earthing for the AC should be done by the supplier.
 - d. Switches light and power points should be of modular type and of standard make as listed below.
 - e. General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts

All wires used must be FRLS (Fire Retardant with low smoke) type only

AIR CONDITIONING:

All rooms mentioned above need to be air-conditioned. Package Air Conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby provision to function 24 x 7. The outdoor units of AC should have grill coverings to prevent theft and damage. Ventilation is required in toilet.

Environment specifications:

- a) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
- b) Temperature ranges: 22 +/- 2° C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.
- c) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.

FURNITURE:

- a) Revolving chairs height adjustable, medium-back with hand-rest – **6 NOS**

- b) Chairs for patient waiting area – Three-seater (chrome plated). - **4 NO.S**
 - c) Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **4 NO.S**
 - d) Drug trolleys for patient preparation area. – **1No.**
 - e) Patient trolley with rubber foam mattress to be kept in the patient preparation room.
 - f) Name boards for all rooms. All the rooms in the complex will be signposted.
 - g) Sun film & ventilation blinds will be put up in all windows.
 - h) Tables for all Workstations.
 - i) Changing rooms should have change lockers and dressing table.
 - j) Dustbins (plastic with lid) to be provided as required.
 - k) Any other furniture item as per requirement.
- All furniture items should be of standard make as mentioned in the table below.

FIRE SAFETY MEASURE:

1. A fire alarm system of reputed make with smoke/ heat detectors, indicator panels, call boxes, electronic sirens and wiring will be installed. Audio call bell system with intercom & remote locking /unlocking facility to be provided at the main door of the complex.
2. Supplying, Installing Dry chemical power type fire extinguisher of 5kgs capacity, with initial filling in brand new cylinder with power coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171 of approved make & complete as directed by EIC.

MISCELLANEOUS:

1. LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size.– **4 NO.S**
2. Cabling of Network (LAN) connectivity and required CISCO switches for networking the LINAC, TPS, CT simulator, Brachytherapy and any other workstation used within the site.
3. Broadband connection with static IP for REMOTE SERVICE of LINAC system.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS/BRANDS:

SL NO	ITEMS	PREFERRED MAKES
A	FLOORING VITRIFIED TILES	Somany, Kajaria , H&R Johnson, Marbonite, Granamite
B	PAINT	Dulux, Asian Paints , Nerolac
C	PLUMBING	Kohler, Jaguar , Grohe , Roca
D	SANITARY ITEMS	CERA, Hindware, Parryware
E	ELECTRICAL	
1	CABLES	Finolex, Havells ,V-Guard
2	SWITCHES	Legrand, L&T, Crabtree , Roma
3	DISTRIBUTION BOX , MCB	Legrand, L&T, Siemens, Havels
4	LIGHT FITTINGS	Philips / Crompton / Wipro.
F	AIR CONDINTIONING	Daikin, Hitachi, Blue Star, Voltas.
G	FURNITURE	Hermen Miller , Godrej , Featherlite

GENERAL POINTS:

All items of work under this contract shall be executed strictly to fulfill the requirements laid down under "Basis of design" in the specifications. Type of equipment, material specification, methods of installation and testing and type of control shall be in accordance with the specifications, approved shop drawings and the relevant Indian Standards, however capacity of each component and their qualities shall be such as to fulfill the above mentioned requirement.

The rate for each item of work included in the schedule of quantities shall, unless expressly stated otherwise, include cost of;

All materials, fixing materials, accessories, appliances tools plants, equipment, transport, labour and incidents required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of work called for in the item and as per specifications and drawings.

Wastage on materials and labour.

Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and for the job in accordance with the contract documents, good practice and recognize principles.

Mode measurement shall be as per specification.

In the event of conflict between schedule of quantities and other documents including the specifications, the most stringent shall apply. The interpretation of the Architect/ Engineer shall be final and binding.

The following items to be quoted as OPTIONAL (price to be quoted separately)

1. Closed circuit cameras of reputed company should be provided in the examination room, console room, linear accelerator and waiting areas.
2. Patient waiting hall: Provision of 42" size flat screen colour television with close cabinet & DTH disc with setup box & CD/DVD Player.
3. Music system for all rooms and waiting areas in the centre.

Item No: 12-A

Low Energy Linear Accelerator System

Added Para:

The Turnkey Scope of Work - Low Energy LINAC

1. The prospective bidders shall inspect the proposed site for LOW ENERGY LINAC at each of the AIIMS (Bhubaneswar, Jodhpur, Raipur, Bhopal, Patna, and Rishikesh) before submission of tender.

Tenderer's are advised to acquaint themselves with access to site, location of work, local labour problems and any other matter relating to availability and carriage of construction materials. Adopting standard operation/ incorporating IG procedure for GRIHA requirement during construction/ post construction.

The construction of the concrete shell of the Bunker (LINAC ROOM) is in the scope of the respective institute. The turnkey work shall include all other site preparation work required the installation and functioning of LOW ENERGY LINAC at the proposed site.

The bidders are required to submit the plan for the LOW ENERGY LINAC Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of LOW ENERGY LINAC Centre.

2. While preparing the plan, the following aspects have to be addressed.

- a) Care should be taken to provide easy negotiation of the patient stretchers / trolleys through corridors and doors.
- b) Adequate Radiation shielding as per AERB norms
- c) Furniture like desk, chairs, shelves etc.
- d) Patient stretcher and other furniture / accessories to make the functional.

3. The cost of Turnkey for the area measuring 200m² and Air-conditioning of 24 TR capacity will be considered for Ranking / Evaluation purpose.

4. Bidders have to quote the Unit Rates of the following components of turnkey work and detailed BOQ should be mentioned:

- a) Civil works like sq.ft/cubic ft, running metre, Kg etc
- b) Electrical work like per metre price, unit price for panel, isolation, etc
- c) Public health (plumbing and sanitary fittings) like per metre length of pipe, number of points, etc
- d) Air Conditioning (HVAC) – rate per tonnage, type of false ceiling and sq.ft rate, etc
- e) Interior Furnishing & Furniture
- f) Miscellaneous works

Scope of work for turnkey:

The bidder should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed LOW ENERGY LINAC Centre along with technical bid of the tender.

The LOW ENERGY LINAC CENTRE shall consist of the following rooms:

- a) LINAC Treatment Room
- b) Control room
- c) Equipment room
- d) Change room
- e) Treatment Planning Room
- f) Patient waiting area
- g) Chiller room / enclosure
- h) AHU room

Construction work to be done as per the final plan / scheme approved by the Consignee.

The actual area of turnkey works done will be considered for payment, based on the site measurements and the unit rate quoted by the supplier.

CIVIL WORK

1. Construction / modification work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
Construction renovation/ modification demolition, exaction, filling work including construction of full or half brick wall if required, plastering, flooring as per the approved plan and equipment layout plan. Necessary openings/ niches/ cutouts, wherever required as per drawings and asked for by the Engineer-In-Charge, shall be provided by the contractor without any extra cost.
2. Making surface good for floor modification for installing the LINAC..
3. Platform for unloading and shifting the LINAC; if necessary.
4. Cable tray, trench & channel – necessary trenches, cable tray and channels at required locations.

a) Flooring

1. 600 x 600 mm vitrified tiles with 100mm tile skirting to match in LINAC room , control room, lobby and patient preparation areas, Consultant's room, TPS room etc.
2. 50 mm thick cement concrete flooring with Vinyl flooring in LINAC equipment / UPS room.

Note:Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600mm (thickness to be specified by the manufacturer) Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorbtion less than 0.08%) flooring in pattern as detailed in drawing or as directed by the EIC and grouted with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the EIC. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & specification and as directed by EIC with 100mm tile skirting to match in LINAC room, control room, lobby and patient preparation areas, consultant's room, TPS room etc.

Mode of measurement (finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying levelling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.

3. 50 mm thick cement concrete flooring at all heights and locations including scaffolding, preparing the surfaces, neat cement finishing to correct line or as required to receive architectural finish, level and plumb, curing where ever required complete as per specifications and drawings, with Vinyl flooring in LINAC equipment/UPS room.
4. The entire complex will be made rodent/pest proof.

b) Painting

1. Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas except LINAC ROOM.
2. LINAC ROOM Walls – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.

Note: Providing all tools, tackles, materials, manpower for applying plastic enamel paint over 2 coats of wall putty including primer in all areas except LINAC ROOM, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/ POP surface, POP board/ gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/ apparatus etc. required to complete

interior grade finish etc. at all heights & levels complete as per drawings & specification and as directed by EIC.

3. LINAC ROOM Walls – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.

c) False Ceiling

1. Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

PLUMBING WORK

1. All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.
2. Chiller Piping and control panel.

Note:

1. Tenderer's are advised to visit the site of work to acquaint themselves about the levels of sub soil water, drainage facility for dewatering, accessibility to site etc. and quote the rates accordingly.
2. All sanitary wares & CP brass fitting & fixtures shall be of first quality with ISI mark (unless otherwise specified) and shall be of the make as per the latest approved list of materials as per list of approved make/model, if any. They shall be got approved by the Engineer-in-charge before incorporating in the work.
3. All the items include testing after completion of the work. Concealed/underground GI pipe line is to be wrapped with hessian cloth and painted with two coats of anticorrosive paint.

Disposing off: The surplus excavated materials by mechanical transport lead up to 2KM to the nearby dumping pits/dumping areas within AIIMS campus identified by Engineer in charge, including all lifts, loading, unloading, stacking etc. complete as per specifications & as directed by the EIC.

ELECTRICAL WORK

1. The supplier shall be required to specify the total load requirements for the LINAC centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the LINAC centre. The mains panel & distribution panel should be provided by the supplier. Few lights in each room shall be connected to the UPS to provide emergency lighting.
2. The electrical work shall include the following:
 - a. Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
 - b. All the internal wiring including that of telephone, LAN, DICOM & PACS etc. will be of concealed variety.

- c. Double earthing with copper plate for the LINAC and all accessories should be as well as the earthing for the AC should be done by the supplier.
- d. Switches light and power points should be of modular type and of standard make as listed below.
- e. General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts

AIR CONDITIONING:

All rooms mentioned above need to be air-conditioned. Package Air Conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby provision to function 24 x 7. The outdoor units of AC should have grill coverings to prevent theft and damage. Ventilation is required in toilet.

Environment specifications:

- a) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
- b) Temperature ranges: 22 +/- 2° C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.
- c) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.

FIRE SAFETY MEASURE:

1. A fire alarm system of reputed make with smoke/ heat detectors, indicator panels, call boxes, electronic sirens and wiring will be installed. Audio call bell system with intercom & remote locking /unlocking facility to be provided at the main door of the complex.
2. Supplying, Installing Dry chemical power type fire extinguisher of 5kgs capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171 of approved make & complete as directed by EIC.

FURNITURE:

1. Revolving chairs height adjustable, medium-back with hand-rest – **6 NO.S**
2. Chairs for patient waiting area – Three-seater (chrome plated). - **4 NO.S**
3. Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **4 NO.S**
4. Drug trolleys for patient preparation area. – **1No.**
5. Patient trolley with rubber foam mattress to be kept in the patient preparation room.
6. Name boards for all rooms. All the rooms in the complex will be signposted.
7. Sun film & ventilation blinds will be put up in all windows.
8. Tables for all Workstations.
9. Changing rooms should have change lockers and dressing table.
10. Dustbins (plastic with lid) to be provided as required.
11. Any other furniture item as per requirement.

All furniture items should be of standard make as mentioned in the table below.

MISCELLANEOUS:

1. LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size.– **4 NO.S**
2. Cabling of Network (LAN) connectivity and required CISCO switches for networking the LINAC, TPS, CT simulator, Brachytherapy and any other workstation used within the site.
3. Broadband connection with static IP for REMOTE SERVICE of LINAC system.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS/BRANDS:

SL NO	ITEMS	PREFERRED MAKES
A	FLOORING VITRIFIED TILES	Somany, Kajaria , H&R Johnson, Marbonite, Granamite
B	PAINT	Dulux, Asian Paints , Nerolac
C	PLUMBING	Kohler, Jaguar , Grohe , Roca
D	SANITARY ITEMS	CERA, Hindware, Parryware
E	ELECTRICAL	
1	CABLES	Finolex, Havells ,V-Guard
2	SWITCHES	Legrand, L&T, Crabtree , Roma
3	DISTRIBUTION BOX , MCB	Legrand, L&T, Siemens, Havels
4	LIGHT FITTINGS	Philips / Crompton / Wipro.
F	AIR CONDINTIONING	Daikin, Hitachi, Blue Star, Voltas.
G	FURNITURE	Hermen Miller , Godrej , Featherlite

GENERAL POINTS:

All items of work under this contract shall be executed strictly to fulfill the requirements laid down under "Basis of design" in the specifications. Type of equipment, material specification, methods of installation and testing and type of control shall be in accordance with the specifications, approved shop drawings and the relevant Indian Standards, however capacity of each component and their qualities shall be such as to fulfill the above mentioned requirement.

The rate for each item of work included in the schedule of quantities shall, unless expressly stated otherwise, include cost of;

All materials, fixing materials, accessories, appliances tools plants, equipment, transport, labour and incidents required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of work called for in the item and as per specifications and drawings.

Wastage on materials and labour.

Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and for the job in accordance with the contract documents, good practice and recognize principles.

Mode measurement shall be as per specification.

In the event of conflict between schedule of quantities and other documents including the specifications, the most stringent shall apply. The interpretation of the Architect/ Engineer shall be final and binding.

The following items to be quoted as OPTIONAL (price to be quoted separately)

1. Closed circuit cameras of reputed company should be provided in the examination room, console room, linear accelerator and waiting areas.
2. Patient waiting hall: Provision of 42" size flat screen colour television with close cabinet & DTH disc with setup box & CD/DVD Player.
3. Music system for all rooms and waiting areas in the centre.

Item No: 12-A
High Dose Rate Brachytherapy System

Added Para:

The Turnkey Scope of Work – HDR BRACHYTHERAPY

1. The prospective bidders shall inspect the proposed site for HDR BRACHYTHERAPY at each of the AIIMS (Bhubaneswar, Jodhpur, Raipur, Bhopal, Patna, and Rishikesh) before submission of tender.

Tenderer's are advised to acquaint themselves with access to site, location of work, local labour problems and any other matter relating to availability and carriage of construction materials. Adopting standard operation/ incorporating IG procedure for GRIHA requirement during construction/ post construction.

The construction of the concrete shell of the BRACHYTHERAPY ROOM is in the scope of the respective institute. The turnkey work shall include all other site preparation work required the installation and functioning of HDR BRACHYTHERAPY at the proposed site.

The bidders are required to submit the plan for the HDR BRACHYTHERAPY Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of HDR BRACHYTHERAPY Centre.

2. While preparing the plan, the following aspects have to be addressed.

- a) Care should be taken to provide easy negotiation of the patient stretchers / trolleys through corridors and doors.
- b) Adequate Radiation shielding as per AERB norms
- c) Furniture like desk, chairs, shelves etc.
- d) Patient stretcher and other furniture / accessories to make the functional.

3. The cost of Turnkey for the area measuring 120m² and Air-conditioning of 15 TR capacity will be considered for Ranking / Evaluation purpose.

4. Bidders have to quote the Unit Rates of the following components of turnkey work and detailed BOQ should be mentioned:

- a) Civil works like sq.ft/cubic ft, running metre, Kg. etc

- b) Electrical work like per metre price, unit price for panel, isolation, etc
- c) Public health (plumbing and sanitary fittings) like per metre length of pipe, number of points, etc
- d) Air Conditioning (HVAC) – rate per tonnage, type of false ceiling and sq.ft rate, etc
- e) Interior Furnishing & Furniture
- f) Miscellaneous works.

Scope of work for turnkey:

The bidders should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed HDR BRACHYTHERAPY Centre along with technical bid of the tender.

The HDR BRACHYTHERAPY CENTRE shall consist of the following rooms:

- a) BRACHYTHERAPY Treatment Room
- b) Control room
- c) Equipment room
- d) Change room
- e) Patient waiting area
- f) Chiller room / enclosure
- g) AHU room

Construction work to be done as per the final plan / scheme approved by the Consignee.

The actual area of turnkey works done will be considered for payment, based on the site measurements and the unit rate quoted by the supplier.

CIVIL WORK

1. Construction / modification work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
Construction renovation/ modification demolition, exaction, filling work including construction of full or half brick wall if required, plastering, flooring as per the approved plan and equipment layout plan. Necessary openings/ niches/ cutouts, wherever required as per drawings and asked for by the Engineer-In-Charge, shall be provided by the contractor without any extra cost.
2. Making surface good for floor modification for installing the BRACHYTHERAPY SYSTEM.
3. Platform for unloading and shifting the BRACHYTHERAPY SYSTEM; if necessary.
4. Cable tray, trench & channel – necessary trenches, cable tray and channels at required locations.

a) Flooring

1. 600 x 600 mm vitrified tiles with 100mm tile skirting to match in BRACHYTHERAPY room , control room, lobby and patient preparation areas, Consultant's room, TPS room etc.
2. 50 mm thick cement concrete flooring with Vinyl flooring in BRACHYTHERAPY equipment / UPS room.

Note: Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600mm (thickness to be specified by the manufacturer) Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorption less than 0.08%) flooring in pattern as detailed in drawing or as directed by the EIC and grouted

with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the EIC. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & specification and as directed by EIC with 100mm tile skirting to match in LINAC room, control room, lobby and patient preparation areas, consultant's room, TPS room etc.

Mode of measurement (finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying levelling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.

3. 50 mm thick cement concrete flooring at all heights and locations including scaffolding, preparing the surfaces, neat cement finishing to correct line or as required to receive architectural finish, level and plumb, curing where ever required complete as per specifications and drawings, with Vinyl flooring in LINAC equipment/UPS room.
4. The entire complex will be made rodent/pest proof.

b) Painting

1. Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas except BRACHYTHERAPY ROOM.
2. BRACHYTHERAPY ROOM Walls – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.
3. Providing all tools, tackles, materials, manpower for applying plastic enamel paint over 2 coats of wall putty including primer in all areas except LINAC ROOM, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/ POP surface, POP board/ gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/ apparatus etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & specification and as directed by EIC.
4. Brachytherapy Room – High quality High density Vitrified Tiles clad on the side walls up to false ceiling.

c) False Ceiling

1. Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

PLUMBING WORK

1. All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.
2. Chiller Piping and control panel.

Note:

1. Tenderer's are advised to visit the site of work to acquaint themselves about the levels of sub soil water, drainage facility for dewatering, accessibility to site etc. and quote the rates accordingly.
2. All sanitary wares & CP brass fitting & fixtures shall be of first quality with ISI mark

(unless otherwise specified) and shall be of the make as per the latest approved list of materials as per list of approved make/model, if any. They shall be got approved by the Engineer-in-charge before incorporating in the work.

3. All the items include testing after completion of the work. Concealed/underground GI pipe line is to be wrapped with hessian cloth and painted with two coats of anticorrosive paint.

Disposing off: The surplus excavated materials by mechanical transport lead up to 2KM to the nearby dumping pits/dumping areas with in AIIMS campus identified by Engineer in charge, including all lifts, loading, unloading, stacking etc. complete as per specifications & as directed by the EIC.

ELECTRICAL WORK

1. The supplier shall be required to specify the total load requirements for the BRACHYTHERAPY centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the BRACHYTHERAPY centre. The mains panel & distribution panel should be provided by the supplier. Few lights in each room shall be connected to the UPS to provide emergency lighting.
2. The electrical work shall include the following:
 - a. Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
 - b. All the internal wiring including that of telephone, LAN, DICOM & PACS etc. will be of concealed variety.
Double earthing with copper plate for the BRACHYTHERAPY and all accessories should be as well as the earthing for the AC should be done by the supplier.
 - c. Switches light and power points should be of modular type and of standard make as listed below.
 - d. General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts

AIR CONDITIONING:

All rooms mentioned above need to be air-conditioned. Package Air Conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby provision to function 24 x 7.

The outdoor units of AC should have grill coverings to prevent theft and damage.

Ventilation is required in toilet.

2. Environment specifications:

- a) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
- b) Temperature ranges: 22 +/- 2° C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.

c) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.

FIRE SAFETY MEASURE:

1. A fire alarm system of reputed make with smoke/ heat detectors, indicator panels, call boxes, electronic sirens and wiring will be installed. Audio call bell system with intercom & remote locking /unlocking facility to be provided at the main door of the complex.
2. Supplying, Installing Dry chemical power type fire extinguisher of 5kgs capacity, with initial filling in brand new cylinder with power coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171 of approved make & complete as directed by EIC.

FURNITURE:

- a) Revolving chairs height adjustable, medium-back with hand-rest – **6 NO.S**
- b) Chairs for patient waiting area – Three-seater (chrome plated). **-4 NO.S**
- c) Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **4 NO.S**
- d) Drug trolleys 1 numbers for patient preparation area.
- e) Patient trolley with rubber foam mattress to be kept in the patient preparation room.
- f) Name boards for all rooms
- g) Tables for all Workstations.
- h) Changing rooms should have change lockers and dressing table.
- i) Dustbins (plastic with lid) to be provided as required.
- j) Any other furniture item as per requirement.

All furniture items should be of standard make as mentioned in the table below.

MISCELLANEOUS:

1. LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – **4 NO.S**
2. Cabling of Network (LAN) connectivity and required CISCO switches for networking the BRACHYTHERAPY, CT Simulator, LINAC , TPS, and any other workstation used within the site.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS/BRANDS.

SL NO	ITEMS	PREFERRED MAKES
A	FLOORING VITRIFIED TILES	Somany, Kajaria , H&R Johnson, Marbonite, Granamite
B	PAINT	Dulux, Asian Paints , Nerolac
C	PLUMBING	Kohler, Jaguar , Grohe , Roca
D	SANITARY ITEMS	CERA, Hindware, Parryware
E	ELECTRICAL	
1	CABLES	Finolex, Havells ,V-Guard

2	SWITCHES	Legrand, L&T, Crabtree , Roma
3	DISTRIBUTION BOX , MCB	Legrand, L&T, Siemens, Havels
4	LIGHT FITTINGS	Philips / Crompton / Wipro.
F	AIR CONDINTIONING	Daikin, Hitachi, Blue Star, Voltas.
G	FURNITURE	Hermen Miller , Godrej , Featherlite

GENERAL POINTS:

All items of work under this contract shall be executed strictly to fulfill the requirements laid down under "Basis of design" in the specifications. Type of equipment, material specification, methods of installation and testing and type of control shall be in accordance with the specifications, approved shop drawings and the relevant Indian Standards, however capacity of each component and their qualities shall be such as to fulfill the above mentioned requirement.

The rate for each item of work included in the schedule of quantities shall, unless expressly stated otherwise, include cost of;

All materials, fixing materials, accessories, appliances tools plants, equipment, transport, labour and incidents required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of work called for in the item and as per specifications and drawings.

Wastage on materials and labour.

Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and for the job in accordance with the contract documents, good practice and recognize principles.

Mode measurement shall be as per specification.

In the event of conflict between schedule of quantities and other documents including the specifications, the most stringent shall apply. The interpretation of the Architect/ Engineer shall be final and binding.

Item No: 13
CT Simulator System

Added Para:**The Turnkey Scope of Work –MULTISLICE CT SIMULATOR**

1. The bidders should inspect the proposed site offered by the Consignee Institute in which the CT system has to be installed and they are required to submit the plan for the complete CT Scan Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of CT Scan Centre.

Tenderer's are advised to acquaint themselves with access to site, location of work, local labour problems and any other matter relating to availability and carriage of construction materials. Adopting standard operation/ incorporating IG procedure for GRIHA requirement during construction/ post construction.

2. While preparing the plan, the following aspects have to be addressed.

- a) Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.

- b) Radiation shielding for doors, walls, windows etc.
- c) Furniture like desk, chairs, shelves etc.
- d) Patient stretcher and other furniture/ accessory to make the scan centre functional.

3. The cost of Turnkey for the area of 140 sq.ft and Air-conditioning of Tonnage 18 TR will be considered for Ranking / Evaluation purpose.

4. Bidders have to quote the Unit Rates of the following components of turnkey work and detailed BOQ should be mentioned:

- a) Civil works like sq.ft/cubic ft, running metre, etc
- b) Electrical work like per metre price, unit price for panel, isolation, etc
- c) Public health (plumbing and sanitary fittings) like per metre length of pipe, number of points, etc
- d) Air Conditioning (HVAC) – rate per tonnage, type of false ceiling and sq.ft rate, etc
- e) Interior Furnishing & Furniture
- f) Miscellaneous works.

Scope of work for turnkey CT unit works:-

The bidder should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed CT Simulator Centres along with technical bid of the tender.

The CT SIMULATOR centre shall consist of the following rooms:

- a) CT Gantry Room
- b) Console room
- c) Equipment room
- d) Patient preparation room
- e) Patient waiting area
- f) AHU room

The actual area of turnkey works done will be considered for payment, based on the site measurements.

CIVIL WORK

1. Construction / modification work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
Construction renovation/ modification demolition, exaction, filling work including construction of full or half brick wall if required, plastering, flooring as per the approved plan and equipment layout plan. Necessary openings/ niches/ cutouts, wherever required as per drawings and asked for by the Engineer-In-Charge, shall be provided by the contractor without any extra cost.
2. Floor modification for installing the CT SIMULATOR SYSTEM.
3. Platform for unloading and shifting the CT SIMULATOR SYSTEM; if necessary.
4. Cable tray, trench & channel – necessary trenches, cable tray and channels at required locations.

a) Flooring

1. 600 x 600 mm vitrified tiles with 100mm tile skirting to match in CT SIMULATOR room , control room, lobby and patient preparation areas, Consultant's room, TPS room etc.

2. 50 mm thick cement concrete flooring with Vinyl flooring in CT SIMULATOR equipment / UPS room.

Note: Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600mm (thickness to be specified by the manufacturer) Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorption less than 0.08%) flooring in pattern as detailed in drawing or as directed by the EIC and grouted with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the EIC. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & specification and as directed by EIC with 100mm tile skirting to match in LINAC room, control room, lobby and patient preparation areas, consultant's room, TPS room etc.

Mode of measurement (finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying levelling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.

3. 50 mm thick cement concrete flooring at all heights and locations including scaffolding, preparing the surfaces, neat cement finishing to correct line or as required to receive architectural finish, level and plumb, curing where ever required complete as per specifications and drawings, with Vinyl flooring in LINAC equipment/UPS room.
4. The entire complex will be made rodent/pest proof.

b) Painting

Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas.

Providing all tools, tackles, materials, manpower for applying plastic enamel paint over 2 coats of wall putty including primer in all areas except LINAC ROOM, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/ POP surface, POP board/ gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/ apparatus etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & specification and as directed by EIC.

c) False Ceiling

Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

PLUMBING WORK

1. All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.
2. Chiller Piping and control panel.

Note:

1. Tenderer's are advised to visit the site of work to acquaint themselves about the levels of sub soil water, drainage facility for dewatering, accessibility to site etc. and quote the rates accordingly.
2. All sanitary wares & CP brass fitting & fixtures shall be of first quality with ISI mark (unless otherwise specified) and shall be of the make as per the latest approved list of materials as per list of approved make/model, if any. They shall be got approved by the Engineer-in-charge before incorporating in the work.
3. All the items include testing after completion of the work. Concealed/underground GI pipe line is to be wrapped with hessian cloth and painted with two coats of anticorrosive paint.

Disposing off: The surplus excavated materials by mechanical transport lead up to 2KM to the nearby dumping pits/dumping areas within AIIMS campus identified by Engineer in charge, including all lifts, loading, unloading, stacking etc. complete as per specifications & as directed by the EIC.

ELECTRICAL WORK

The supplier shall be required to specify the total load requirements for the CT SIMULATOR centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the CT SIMULATOR centre. The mains panel & distribution panel should be provided by the supplier. Few lights in each room shall be connected to the UPS to provide emergency lighting.

The electrical work shall include the following:

- a. Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
- b. All the internal wiring including that of telephone, LAN, DICOM & PACS etc. will be of concealed variety.
- c. Double earthing with copper plate for the CT SIMULATOR and all accessories should be as well as the earthing for the AC should be done by the supplier.
- d. Switches light and power points should be of modular type and of standard make as listed below.
- e. General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts

AIR CONDITIONING:

All rooms mentioned above need to be air-conditioned. Package Air Conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby provision to function 24 x 7.

The outdoor units of AC should have grill coverings to prevent theft and damage.

Ventilation is required in toilet.

2. Environment specifications:

- a) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.

b) Temperature ranges: 22 +/- 2° C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.

c) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.

FURNITURE:

- a) Revolving chairs height adjustable, medium-back with hand-rest – **6 NO.S**
- b) Chairs for patient waiting area – Three-seater (chrome plated). - **4 NO.S**
- c) Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **4 NO.S**
- d) Drug trolleys 1 numbers for patient preparation area.
- e) Patient trolley with rubber foam mattress to be kept in the patient preparation room.
- f) Name boards for all rooms
- g) Tables for all Workstations.
- h) Changing rooms should have change lockers and dressing table.
- i) Dustbins (plastic with lid) to be provided as required.
- j) Any other furniture item as per requirement.

All furniture items should be of standard make as mentioned in the table below.

FIRE SAFETY MEASURE:

1. A fire alarm system of reputed make with smoke/ heat detectors, indicator panels, call boxes, electronic sirens and wiring will be installed. Audio call bell system with intercom & remote locking /unlocking facility to be provided at the main door of the complex.
2. Supplying, Installing Dry chemical power type fire extinguisher of 5kgs capacity, with initial filling in brand new cylinder with power coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171 of approved make & complete as directed by EIC.

MISCELLANEOUS:

1. LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – **4 NO.S**
2. Cabling of Network (LAN) connectivity and required CISCO switches for networking the CT Simulator, LINAC ,BRACHYTHERAPY, TPS, and any other workstation used within the site.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS/BRANDS:

SL NO	ITEMS	PREFERRED MAKES
A	FLOORING VITRIFIED TILES	Somany, Kajaria , H&R Johnson, Marbonite, Granamite
B	PAINT	Dulux, Asian Paints , Nerolac
C	PLUMBING	Kohler, Jaguar , Grohe , Roca
D	SANITARY ITEMS	CERA, Hindware, Parryware
E	ELECTRICAL	
1	CABLES	Finolex, Havells ,V-Guard
2	SWITCHES	Legrand, L&T, Crabtree , Roma

3	DISTRIBUTION BOX , MCB	Legrand, L&T, Siemens, Havels
4	LIGHT FITTINGS	Philips / Crompton / Wipro.
F	AIR CONDINTIONING	Daikin, Hitachi, Blue Star, Voltas.
G	FURNITURE	Hermen Miller , Godrej , Featherlite

GENERAL POINTS:

All items of work under this contract shall be executed strictly to fulfill the requirements laid down under "Basis of design" in the specifications. Type of equipment, material specification, methods of installation and testing and type of control shall be in accordance with the specifications, approved shop drawings and the relevant Indian Standards, however capacity of each component and their qualities shall be such as to fulfill the above mentioned requirement.

The rate for each item of work included in the schedule of quantities shall, unless expressly stated otherwise, include cost of;

All materials, fixing materials, accessories, appliances tools plants, equipment, transport, labour and incidents required in preparation for and in the full and entire execution, testing, balancing, commissioning and completion of work called for in the item and as per specifications and drawings.

Wastage on materials and labour.

Loading, transporting, unloading, handling/double handling, hoisting to all levels, setting, fitting and fixing in position, protecting, disposal of debris and all other labour necessary in and for the full and entire execution and for the job in accordance with the contract documents, good practice and recognize principles.

Mode measurement shall be as per specification.

In the event of conflict between schedule of quantities and other documents including the specifications, the most stringent shall apply. The interpretation of the Architect/ Engineer shall be final and binding.

All other terms and conditions of the tender enquiry remain unaltered.