

- **COMMISSIONING CERTIFICATES:**

PRELIMINARY TEST CERTIFICATE ON RECEIPT OF EQUIPMENT:

After submission of the Third-Party Inspection / Testing Certificate along with OEM's Technical Compliance Certificate and Warranty Certificate by the contractor, preliminary testing shall be done by the consignee on receipt of equipment in the presence of representatives of the contractor, and a Preliminary Test Certificate (**Annexure-XIV**) will be issued by consignee. Preliminary testing will comprise of the following:

- (I) Physical verification and inspection of the **Smart Card Management Terminal (SMC) consisting of Thin client, Monitor, Keyboard, Mouse, Mouse Pad, RFID Smart Card Reader, UTS Thermal Ticket Printer, UPS and all associated accessories** as per the supply contract.
- (II) Performing the power-on test for all the equipment supplied. The equipment are to be tested by integrating them to the existing Unreserved Ticketing System network at least for a period of 7 days for evaluation. The responsibility to test the equipment and install them to the entire satisfaction of the Railway rests entirely with the contractor.

FINAL COMMISSIONING CERTIFICATE:

Consequent to the Installation and commissioning of all equipment at site / Railway stations, a Final Commissioning Certificate (**Annexure-XV**) will be issued by the consignee. The final commissioning will comprise of the following:

- (i) Successful functioning of the product and compatibility with the CRIS application for 1 month from the date of commissioning is termed as Date of acceptance.
- (ii) The comprehensive Warranty period will be calculated from the date of commissioning of the final machine installed over ER against this order.
- (iii) The supplier will train two staff at each site (Railway station) for 4 working days with installation and operation of the equipment, which will form a part of the final commissioning in coordination with the consignee.

6. **TECHNICAL SPECIFICATIONS & SUPPORT MANUALS**

- **TECHNICAL SPECIFICATIONS:** Detailed technical specifications for the equipment:- **Smart Card Management Terminal (SMC) consisting of Thin client, Monitor, Keyboard, Mouse, Mouse Pad, RFID Smart Card Reader, UTS Thermal Ticket Printer and UPS** are given in Annexures- Annexure-I, II, III, IV, V & VI. The

bidder must submit an item wise compliance of these technical specifications. Any Specification / conditions stated by the contractor in the covering letter submitted along with his tender shall be deemed to be part of the contract only to such extent as has been explicitly accepted by the Railway. SMCs will be connected with the existing Unreserved Ticketing System (UTS).

- **SUPPORT MANUALS:** One set of manuals and support documents with each SMC Terminal shall be made available. All the Hardware must be accompanied by the original documentation and a full set of accessories given by the manufacturers. Any software for the installation of the equipment shall be supplied on CD/VCD.

Obtaining of any licenses or any other statutory requirement for installation and working of all equipment shall be the responsibility of the tenderer.

It will be the sole responsibility of each bidder to fully acquaint himself with all the local condition and factors, which could have any effect on the performance of the contract and the cost.

The contractor shall install the equipment and execute other works under this contract to the entire satisfaction of consignee.

7. COMPREHENSIVE WARRANTY

- **COMPREHENSIVE WARRANTY:** The Comprehensive warranty shall be for a period of 36 months (03 Years) from the date of successful commissioning of the final machine installed over ER against the order/contract or 42 months from the completion of supply, whichever is earlier. The warranty support shall cover the following: (I) 24 hours x 7 days a week support, including Saturday, Sunday and holidays. (II) Free patches / upgrades and firmware upgrade of SMC Terminal and its sub-components and RFID Smart Card Readers. The installation of these will be the joint responsibility of the bidder and Original Equipment Manufacturer. (III) During the warranty period contractor shall provide/replace/repair all parts and accessories including Monitor, Thin Client, RFID Reader/Writers, Thermal Printers, Thermal Heads, Printer Cutters, UPS & UPS batteries, etc., at no cost to Railways irrespective of their Codal life and any environmental conditions. (IV) The bidder shall provide a complaint Escalation mechanism to escalate complaints during the warranty period, whenever required. (V) Bidder will maintain their inventory of spares so as to give fast and efficient service, carry out all necessary repairs and replacements of parts without any additional cost to railways in any condition.

8. PREVENTIVE MAINTENANCE & PENALTIES

- **Preventive Maintenance clause during the Warranty Period** Preventive maintenance (PM) of all machines/equipment will be done by the vendor at least once a month, for which a Preventive maintenance schedule to be submitted to the consignee in advance. The last month's Preventive maintenance compliance reports should be submitted to the consignee in the first week of every month by the contractor. The Preventive maintenance should cover the following activities: (I) Complete overhauling, repairing, cleaning of all the machines/equipment, spare parts (II) After the PM activity, the machine should be in working condition. (III) Contractor / Preventive maintenance engineer should obtain the preventive maintenance compliance report from the concerned station in- charge/ CBS/CNC, with his name, signature, date, and seal. If the machine remains non-functional, the station in charge should indicate in the Preventive maintenance compliance report with reasons. (IV) In case the contractor is not able to repair/replace the equipment/parts within one week of a breakdown call or a preventive maintenance activity, the reason for non-repair of the equipment should be given in writing. In such case, the railway reserves the right to get the equipment repaired from any other sources. The cost of such repairs will be recovered from the contractor's bills other than penalty charges.
- **PENALTY CLAUSE FOR WARRANTY PERIOD:** For ensuring uninterrupted ticketing at a location, all the SMCs should be in working order. Service engineers should reach the site, identify the failure/fault in SMCs and ensure rectification, and ensure that SMCs are in working order within the timeline as under: Penalty for not rectifying within the Free time of 48 Hours: Rs.250.00 per non-working SMC per day or part thereof beyond Free Time.
- **Commencement of Free Time:** Whenever a complaint regarding failure is registered/lodged through call, SMS, e-mail, WhatsApp, or call on Toll-free number given by the bidder, and the time at which the complaint is conveyed will be deemed as the commencement of Free Time. **Penalty on failure of PMC (Preventive Maintenance Clause):** On failure to provide monthly preventive maintenance, penalty of Rs.250/- per SMC if unattended in the month shall be levied. For the warranty period, total penalty shall be subject to a maximum of 10% of the total value of the Purchase Order. The penalty will be worked out quarterly and shall be advised to the bidder/supplier by the Divisional Office. The penalty should be paid by the supplier within 60 days from the date of advice of the penalty, failing which the penalty amount would be recovered from the Security Deposit / Bank Guarantee. Non-compliance of terms and conditions of contract, unsatisfactory performance by supplier and non- payment of penalty can also lead to forfeiture of Security Deposit / Bank Guarantee and blacklisting of firm.

- **NOTE:** If the problems in SMCs are not rectified within 7 days, additional penalty of Rs 1000/- per day or part thereof will be levied. The penalty will be worked out on Quarterly basis and shall be advised to the bidder / supplier by the Divisional Office. The penalty should be paid by the supplier within 60 days from the date of advice of penalty, failing which penalty amount would be recovered from Security Deposit / Bank Guarantee. Noncompliance of terms and conditions of contract, unsatisfactory performance by supplier and non-payment of penalty can also lead to forfeiture of Security Deposit / Bank Guarantee and blacklisting of firm.

9. PAYMENT TERMS & SECURITY DEPOSIT

- **Performance Bank Guarantee (PBG):** Successful bidder has to submit 5% of order value for SD amount as mentioned in bid. This SD amount of 5% of order value shall be returned once the complete order quantity is supplied, commissioned and tested successfully. In addition to this SD amount, supplier shall submit PBG for 5% of the contract value separately as a security covering the warranty period which shall be submitted within 10 days of commencement of warranty period with a validity of 6 months beyond the completion of warranty period.
- **PAYMENT:** CRAC shall be generated by the consignee Gazetted officer and 100% of the value of contract shall be paid subject to submission of the following documents (if GeM Contract). In case of IREPS tender, same will made 100% and CRN will be generated subject to submission of the following documents:
 - 1) TPI/ RITES inspection certificate along with technical compliance certificate & Guarantee /Warranty certificate of OEM as per **Annexure-II** duly certified by TPI/ RITES.
 - 2) Successful receipt of all machines at divisions and submission of successful FINAL COMMISSIONING CERTIFICATE (**Annexure-XV**) of all machines from divisions.
 - 3) Self-certificate that "power on test" of all the machines is done successfully by the supplier.
 - 4) 5% PBG towards warranty security by the supplier.

Note: (a) In case of delay in final commissioning beyond 3 months from the date of delivery, on account of reasons not attributable to the contractor, to be certified by the consignee, penalty will not be imposed for delay in final commissioning and payment may be made for goods/services actually commissioned. (b) On the other hand, in case of delay in final commissioning beyond 3 months from the date of delivery, on account of contractor, to be certified by the consignee, only 10% of the cost of non-commissioned equipment may be paid.

10. BID SUBMISSION REQUIREMENTS

- **CONTENTS OF THE BID:** Bids must be furnished along with check-list documents placed at **Annexure-XIII** and this 'Special Terms and Conditions' document of this tender. The specific information indicated against each section must be provided. Offers which do not contain the information sought might be considered unresponsive and become liable for rejection.

11. BIDDER MUST SIGN & STAMP ON EACH PAGE OF THIS ATC DOCUMENT AND SUBMIT THE SAME AS A TOKEN OF ACCEPTANCE OF ALL TERMS & CONDITIONS.

ANNEXURE - I

PROFORMA FOR AUTHORITY FROM OEMs (Original Equipment Manufacturers)

(To be submitted by bidder if they are authorized representatives of an OEM)

No..... dated.....

To,

Sr. Divisional Materials Manager,
Eastern Railway, Sealdah
Kolkata- 700 014.

Dear Sir,

Sub: - ER's Tender No.....

We, an established and
reputable manufacturer of
having factories at and offices at
do hereby authorize M/s(Name and address of
Agents) to represent us, to bid, negotiate and conclude the contract on our behalf with you
against Tender No.

Yours faithfully,

(Name.....)

for & on behalf of

M/s

(Name of Manufactures)

Note: This letter of authority should be on the Letter-Head of the manufacturing concern and
should be signed by a person competent and having the power of attorney to bind the
manufacturer.

ANNEXURE - II

WARRANTY

We warrant that the SMCs to be supplied by us hereunder shall be brand new, free from all encumbrances, defects and faults in material workmanship and manufacture and shall be of the highest grade and equally consistent with the established and generally accepted standards for material of the type ordered shall be in full conformity with the specifications, drawings or samples, if any, and shall operate properly. We shall be fully responsible for its efficient and effective operation. This warranty shall survive inspection of and payment for and acceptance of the SMCs but shall expire thirty-six (36) months from the date of successful commissioning of the final machine installed over ER against the order/contract after their successful installation and acceptance by the consignee or 42 months from the date of completion of supply of SMCs whichever is earlier. However, condition for warranty for 42 months is applicable only in case of delay in commissioning is on account of Railways/CRIS and not on account of bidder (s).

We also warrant that the function contained in the system software if any will meet the manufacturer's specification together with any clarifications given by us and that the operation of these firmware will be uninterrupted and error free and all software defects, if any will be corrected by us.

The obligations under the warranty expressed above shall include all costs and taxes relating to labour, spares maintenance (preventive and unscheduled) and transport charges from site to manufacturers works and back and for repair/adjustment or replacement at site of any part of SMCs which under normal care and proper use and maintenance proves defective in design, material or workmanship or falls to operate effectively and efficiently or conform to the specifications and for which notice is promptly given by the purchaser to the supplier.

Signature of the Witness

For and on behalf of
[Insert Bidder's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of Bidder's Company)

ANNEXURE- III

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF SMC THIN CLIENT

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
1	Processor	Quad core Processor with base Frequency of Min 1.10 GHz or above and Burst Frequency of min 2.40 GHz or above (Fan less model)		
2	Memory	4GB or above DDR3 or higher		
3	Flash/SSD/DOM Memory	32 GB (16 GB usable + 16 GB OP) or above Usable MLC/3D-TLC SATA/mSATA/M.2/eMMC in primary slot or onboard primary		
4	Redundant Flash/SSD/Dom (in slot other than primary)	32 GB (16 GB usable + 16 GB OP) or above Usable MLC/3D-TLC SATA/mSATA/M.2/eMMC or onboard primary		
5	Power supply	Internal SMPS/External with 110-240 V or 90-264V 50 Hz		
6	Keyboard & mouse	PS2/USB based 104/107 Keys Mechanical keyboard and scroll mouse.		
7	Monitor	18.5"" or higher TFT/LCD/LED color monitor (Compatible to Resolution 800 x 600 and 1366 x 768)		
8	Emulation Support	For PRS, VT100/VT220/VT320 emulation support over RS232/LAN through telnet with PRS forms downloading feature, answerback support (in disabled mode) over		

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
		telnet. ISCII 83 for printing PRS tickets. Programmable function key should not be supported in emulation. Support for barcode printing (both for 1D and 2D) through escape sequence in terminal emulation. Support for RFID Smartcard reading as per CRIS requirement through escape sequence in terminal emulation. The thin client should be capable of printing both ASCII and ISCII characters. In ISCII it should support printing of ISCII 83 and ISC1188 codes (Chart printing in Hindi as well as English). For UTS, VT100/VT220/VT320 emulation support through telnet with forms downloading feature. Separate login should be provided for UTS and PRS through Emulation.		
9	Ports	One Centronics parallel printer port. Two serial ports DB 9 pin (Male), one for printer & other for MUX or host connectivity.		
10	Connectivity	10/100/1000 Mbps auto sensing LAN interface		
11	Accessories	Four USB ports with option of storage class enabling/disabling using admin password. (by default it should be disabled for storage class)		
12	Networking	Support for scp, ssh, cron TCP/IP with DHCP, DNS support		
13	Should have following O/S	1. 64 bit Embedded linux with Kernel 4.x.x or above (minimum version		

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
	and S/W embedded	<p>should be 4.18.x)(here 'x' can vary). OS Size should be less than 2.0 GB on onboard/primary flash memory. (OS size includes Kernel, libraries required to run CRIS UTS Application, terminal emulation with Devanagari support, X- window Interface, Mozilla Browser etc. However, OS size excludes JRE.)</p> <p>2. JRE version 1.6 and 1.8 or above. (JRE 1.6 for SMC and JRE 1.8 or above for Modernize PRS)</p> <p>3. Latest version of Mozilla Firefox browser available with kernel 4.x.x and with intraction with peripherals devices and option to import security certificates. Option to upgrade should be available.</p> <p>4. Document viewer plug-in for PDF printing (multiple page printing support)</p> <p>5. SAP Sybase ASA version 17 or above which shall be provided by CRIS</p> <p>6. CRIS/UTS application (both front end and back end which shall be provided by CRIS). Master copy of the pre-installed image should be provided to CRIS on DVD/Pendrive.</p> <p>7. All the drivers for peripherals like display, printer and networking components. Local terminal configuration utility.</p> <p>8. Latest version of freetype, ssl and pango</p> <p>9. Utility to monitor flash memory PE cycles/TBW</p>		

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
		<p>Note:</p> <ol style="list-style-type: none"> 1. The costing of Sybase ASA license is not to be borne by the vendor. 2. Should be able to simultaneously run both UTS and PRS application with switching through Hot Keys. 3 Should be able to simultaneously run both UTS and SMC application with switching through Hot Keys. 		
14	Remote Manageability	<p>Administrator be able to do a remote installation from a central location, management of operating system, updates, patches and application software of all thin clients, asset information. Administrator should be able to Remotely control Network setting, Power options, Restart options.</p>		
15	Other supports	<p>Multi session/Multi host support. Support for printing to both Dot Matrix, Thermal Printer and Laser Printer. Community string: uts.<zone_code>.tc.! Traps to be enabled: linkup, link down, cold start SNMP community version snmpv2c should return attributes: Host name, Mac-Address, OS and its version</p>		
16	Compatibility	<p>Compatibility with Sybase Anywhere (ASA version 16 or above) CRIS application in C, C++, Java and Web Based. Indian Language printing support VT100/VT220/VT320 emulation support for UTS local application display.</p>		
17	Printing	Bi-directional printing support, ISCII		

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
		support (for printing in Hindi), USB printing, lpr printing		
18	Construction	Vertical/Book End		
19	Regulatory Compliance	For Thinclient: Self certified RoHS (Restriction of Hazardous Substances) compliance. BIS Certification		
20	Security	Password protected local terminal configuration O/S should be tampered proof root password recovery module must be removed TLS version 1.3 or above supported by offered OS and browser. Upgrade option should be available.		
21	Other OS features	Automatic Application Startup feature		
22	Warranty	3 years on site on call support		
23	Power consumption of total solution	Thin Client: 65W or less Monitor: 30W or less		
24	Upgrades	Browser upgrade through patch - Twice a year (as per CRIS recommendation) TLS upgrade through patch - Twice a year (as per CRIS recommendation)		

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF UPS

Sl no.	Parameter	Specification	Compliance (Yes/No)	Remarks / Deviations
1	Type	Line interactive		
2	Technology	UPS with AVR and PWM		
3	Output Power Capacity	600 VA or higher		
4	Nominal/Rated Output Voltage	230 VAC +/-10%		
5	Output Frequency (sync to mains)	50Hz +/- 1Hz		
6	Overload Warning/Trip.	Yes		
7	Overload capacity	1 Minute for 110%		
8	Waveform Type	Stepped approximation to sine Wave		
9	Output connections	4 Numbers Indian Sockets. (Battery Backup and surge proction)		
10	Power Factor	0.6 or higher		
11	Nominal/Rated Output Voltage	230 VAC Normal (Range 195-255 VAC)		
12	Input Frequency	50 Hz up (Auto sensing)		
13	Input Connections	India 3 Pin, 6A socket		
14	Cord Length	1.00-2.00 meters		
15	Input Voltage Range	160-280 VAC		
16	Battery Type	Sealed Maintence free-SMF		
17	No. of battery	Two (internal)		
18	Voltage, Ampere	2x12V, 7AH		
19	Protection	Battery Discharge protection.		
20	Transfer Time.	4-6 milli second		
21	Typical recharge time	8 hours to 90% capacity after complete discharge		
22	Typical Backup Time at Full Load	Minimum 25 minutes		

23	Control Panel	LED status display on on mains. on battery on Overload		
24	Audible Alarm	on battery Battery low Overload		
25	Mains input	Mains input fuse/Breaker for overload and short circuit.		
26	Short circuit	Fuse/Breaker in main mode Electronic cut off in Mains mode		
27	Surge	Protection against surge		
28	Operating Environment	\$0-40^{\circ}\$C\$		
29	Operating Relative Humidity	0-90% non-condensing.		
30	Audible Noise at 1 meter from surface of unit	< 45 dBA.		
31		3 year on-site		

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF RFID SMART CARD READER

S.No.	Parameter / Item	Specification / Description	Compliance (Yes/No)	Remarks / Deviations
1	Description / Item	ISO14443A Smart Card Reader with SAM 4 SLOTS for existing Mifare 1K classic cards & DESFire family Cards. The command set for reading existing Mifare 1K classic cards on reader given in the Annexure A2.		
2	Operating distance	Up to 100 mm		
3	FIFO depth (byte)	Physically must be 64 bytes, logically must be extended to 256 bytes		
4	Host interface	8 BIT or higher PARALLEL / SPI		
5	Interface frequency	13.56MHz		
6	Modulation & Data Coding	ISO14443A		
7	Baud rate	57600bps-N-8-1		
8	Thin Client Reader to Interface	RS 232		
9	Communication Standards	1. ISO14443-2, -3, -4		
10	Communication Protocols	2. ISO7816 (T=1), Interface supporting standard Bit rates with options of supporting up to 1.5 Mbps MIFARE CLASSIC & T=CL		
11	Crypto Support	Should support MIFARE Crypto & Secure Non-Volatile Internal Key Memory		
12	Security Feature	Should support high security Terminal with SAM's based on DES, TDES & AES with secure storage & secure downloading of keys		
13	Supply Voltage	12V		
14	Power down mode current typical [mA]	10		
15	Wake time [micro sec)	1000 (Host to Controller)		
16	Temperature	0 degree Celsius to 50 degree Celsius		

	Range			
17	Controller& Host communication	Should be able to open 1 single device serial interface for communication		
18		Should be enclosed in an enclosure made of durable heavy-duty material.		

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF UTS Thermal Ticket Printer

S.No.	Item	Description	Compliance (Yes/No)	Remarks / Deviations
1	Print Method	Direct Thermal or Thermal Line		
2	Fonts	Special fonts for Railways. All vowel characters should be printed in italic. Provision should be available for loading customized Railway font in the firmware as default font.		
3	Character Size	Font A: \$12\\times24\$		
4	Multi Language Support	With multi-lingual support, for Indian Languages with Hindi and English as default and other regional language support for future.		
5	Resolution	200 dpi or more		
6	Printing Speed	100 mm or more per sec		
7	Fast print response	Instant print operation, no warming up		
8	Paper width	81 mm		
9	Printable width	77 mm		
10	Paper length	90 mm		
11	Printable length	86 mm		
12	Paper weight	Minimum 100 gsm		
13	Paper thickness	100 um or more		

14	Paper type	Thermal		
15	Sensitivity side	Outside		
16	Paper feed speed	\$150~mm/s\$ (Continuous paper feeding)		
17	Roll Capacity	Should have provision for a single roll supporting 500 tickets		
18	Paper Cutter	Automatic & Integrated and High Speed		
19	Print Head Life	100 km paper length		
20	Cutter life	Minimum 0.7 million cuts with 100 gsm paper		
21	Paper loading	Printer should have feature of auto loading & auto adjustment of paper so that in any case, no ticket should be wasted and paper should be adjusted at its proper position. This should be designed in such a way that different length of ticket stock should be accommodated.		
22	Emulation	Epson Compatible (Epson \$ESC/P\$). Printer should support full command set of \$ESC/P\$.		
23	Bar Code Support	Support for graphics printing capability. It should omit carriage return command in between graphics printing.		
24	Printer Monitoring & Status	Very comfortable & comprehensive monitoring program for checking & verifying all main printer functions (Paper out, printer cover open, power off/on, ticket delivered etc.) and status messages from the printer through Serial and Parallel/USB port. All these status should be returned in response of commands so that ticket printing application can be programmed to retrieve the status messages of the printer.		

25	Black mark recognition	To control printing & cutting of pre-printed tickets, Width of Black Mark: 81 mm; Height of Black mark: 4 mm.		
26	Sensors	Sensors for cover open paper out and ticket print status success/failure. In case of any manipulation / tampering with sensor, printer should not print ticket.		
27	Reliability (MCBF)	37 million lines		
28	Temperature	\$5^{\circ}\text{C}\$ to \$45^{\circ}\text{C}\$		
29	Humidity	10 to 90% RH		
30	Power Requirement	90 V to 240 V AC		
31	Usable Paper	Top Coated Thermal Paper		
32	Receive Buffer	45 bytes to 4 KB		
33	Interface	1. Bi-directional Serial and 2. i) Bi-directional Parallel or ii) USB. One Serial port is mandatory. Second port can be either parallel or USB. Printer should print ticket irrespective of the fact whether it is connected to serial, USB or Parallel port.		
34		Printer to stop printing when printer cover is open. It should clear the remaining ticket buffer when power off or printer cover open.		
35		Printer must support printing of ticket with ticket length as per black mark (not as per fixed length) so that different length ticket stationary can be accommodated in the same printer.		
36		Printer should return NOT READY status when not able to print the ticket (i.e. paper out, cover open, head open or any other error in printer).		

37		At the time of loading of paper roll (including printer power on/off and cover open), printing should start from the second line.		
38		Printer should have paper guider to align the paper.		
39		All the feed buttons should be disabled. Printer should have only power button.		
40	In case of Serial interface	default baud rate should be 38400.		
41	Return Status from printer	1. Serial Interface: Printer Ready - 4126 (in hex), Printer not ready - 4006(in hex) 2. Parallel Interface: Printer ready - DF (in hex), Printer not ready - 7F (in hex) 3. USB Interface: Printer ready - 18 (in hex), Printer not ready - any other positive value		
42	Line spacing	Default line spacing should be 1/8 inch. It should also support 1/6 inch line spacing.		
43	Regulatory Compliance	BIS Certification as per IS 13252 (Part 1):2010		
44		Facility to monitor number of power on counts, number of auto cut counts, number of times the printer cover has been opened, whenever required in response of commands. These counters should be reset to zero in response of some reset commands. Status of ticket printed and delivered - success/failure should be returned in response of command.		

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF Keyboard and Mouse

Sl no	Parameter	Required Specification	Compliance (Yes/No)	Remarks / Deviations
Keyboard				
1	Type	Mechanical Keyboard		
2	Connectivity & Interface	Wired USB		
3	Number of Keys	104 or higher		
4	Life of Keyboard	50 million Key Strokes or higher		
5	Additional Features	Dust-proof and must be fitted with mechanical switches and have laser etched keys.		
6	Warranty	OEM On-site Warranty of minimum 03 years or higher		
Mouse				
1	Type	High precision optical movement detection		
2	Connectivity	Wired USB		
3	Number of Buttons	2 or higher (minimum)		
4	DPI	400 or higher		
5	Warranty	OEM On-site Warranty of minimum 03 years or higher		
6	Agreement: Back-to-Back required.	agreement between bidder/supplier and OEM		
7		Mouse Pads to be supplied additionally.		

(To be executed on Company Letterhead by respective OEMs of the subcomponents and by the OEM of SMC Terminal)

TECHNICAL COMPLIANCE SHEET OF Monitor

Sl no.	Item	Required Specification	Compliance (Yes/No)	Remarks / Deviations
1	Panel Type	In plane Switching (IPS) with LED Backlit		
2	Screen Size (Diagonal)	23.8 Inch or higher.		
3	Resolution	1920x1080 (Full HD)		
4	Aspect Ratio	16:9		
5	Brightness & Contrast	Brightness (Nits): 250 or higher. Contrast Ratio (Min.): 1000:1 or higher.		
6	Response Time (Minimum)	5 milliseconds or lower		
7	Refresh Rate	120Hz or higher		
8	Mounting Arrangement	Table Mount		
9	Ports Required	VGA Port and HDMI Port		
10	Accessories Included	HDMI cable to be provided with monitor		
11	Certifications	BIS		
12	Warranty	OEM On-site Warranty of 03 years or above		
13	Agreement	Back to Back agreement between bidder/supplier and OEM of Monitors required		

For and on behalf of [Insert SMC OEM/ Subcomponent OEM's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of the SMC OEM/ Subcomponent's OEM)

ANNEXURE- IV

[To be printed on the Primary SMC OEM's Official Letterhead/Bidder's Letterhead]

OEM DECLARATION OF SMC SUBCOMPONENTS AND MANUFACTURING DETAILS

To,
Sr. Divisional Materials Manager,
Eastern Railway, Sealdah
Kolkata- 700 014.

Dear Sir,

Subject: Declaration of Make, Model, Manufacturer Details, and
Sub-component Compliance for SMCs.

Reference: ER's Tender No.....

I/We, the undersigned, duly authorized to represent and act on behalf of

[
Insert Primary SMC OEM Company Name/ Bidder Company's Name], hereby
declare the following details regarding the manufacturing and integration of the
SMCs:

1. Bidder Company/ SMC OEM Statutory & Registration Details:

Parameter	Details
Registered Company Name	
Registered Office Address	
UDYAM Registration Number	
UDYAM Enterprise Category	[e.g., Micro, Small, Medium]
GSTIN / PAN	

2. Manufacturing Premises Details:

(Please provide the specific address where the SMCs are integrated, assembled, and tested)

Parameter	Details
Complete Address of Manufacturing Premises	
Authorized Contact Person & Details	

3. SMC Subcomponent Details & Compliance Tracking

We confirm that the SMC comprises the following physical subcomponents. The specific Make, Model, and actual Manufacturer details for each are declared below.

(Note: If the Primary SMC OEM is not the actual manufacturer of a subcomponent, the Technical Compliance Sheet signed by the actual manufacturer must be attached).

S.No.	SMC Subcomponent	Name of Actual Manufacturer	Make / Brand	Exact Model Number	Subcomponent Mfr. Compliance Sheet Attached? (Yes/No/NA)
1	Thin Client				
2	RFID Smart Card Reader				
3	Monitor				
4	Keyboard & Mouse				
5	Thermal Ticket Printer				

S.No.	SMC Subcomponent	Name of Actual Manufacturer	Make / Brand	Exact Model Number	Subcomponent Mfr. Compliance Sheet Attached? (Yes/No/NA)
6	UPS				

4. Declaration & Undertaking:

1. I/We certify that the information provided above is true, accurate, and complete to the best of my/our knowledge.
2. I/We confirm that all subcomponents listed above meet or exceed the technical specifications outlined in the referenced contract/tender document.
3. **I/We declare that for all subcomponents where we are not the original manufacturer, we have procured the Technical Compliance Sheet directly from the respective Original Equipment Manufacturer (OEM) of that subcomponent, and the same are attached herewith as annexures.**
4. I/We understand that the SMC is an integrated system, and as the Primary OEM/ Bidder, we take full responsibility for the overall warranty, maintenance, compatibility, and seamless functioning of all subcomponents, regardless of their individual original manufacturers.
5. I/We acknowledge that any false information or subsequent unauthorized alteration of subcomponent makes/models without prior approval may result in rejection of the equipment and cancellation of the contract.

For and on behalf of [Insert SMC OEM Company Name/ Bidder Company Name]:

Date:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____ [Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of the SMC OEM/ Bidder Company)

ANNEXURE- V

SUBCOMPONENT MANUFACTURER COMPLIANCE DECLARATION

(To be printed on the Official Letterhead of the Subcomponent Manufacturer. One sheet to be filled for each outsourced subcomponent)

To,

Sr. Divisional Materials Manager,
Eastern Railway, Sealdah
Kolkata- 700 014.

Dear Sir,

Subject: Declaration of Subcomponent Compliance for SMCs.

Reference: ER's Tender No.....

I/We, the undersigned, representing _____ **[Insert Subcomponent Manufacturer Company Name]**, hereby declare and certify that we are the original manufacturer of the following component being supplied to _____ **[Insert Primary SMC OEM Company Name/ Bidder Company Name]** for integration into the SMC Terminal:

- **Subcomponent Name:** _____ [e.g., Ticket Printer / Thin client]
- **Make / Brand:** _____
- **Exact Model Number:** _____

Compliance Undertaking:

We have reviewed the technical specifications required for the aforementioned subcomponent as per the referenced tender/contract document. We hereby confirm that the Make and Model stated above strictly complies with **100% of the technical parameters** requested, without any deviations.

*(Attach a detailed parameter-by-parameter compliance sheet as per **Annexure-III**, product data-sheet & product brochures for this specific model)*

We further guarantee the availability of spare parts and technical support for this model for the full warranty/AMC period mandated by the contract.

For and on behalf of **[Insert Subcomponent Manufacturer Company Name]**:

Signature: _____

Name of Authorized Signatory: _____

Designation: _____

[Official Company Seal/Stamp and Date]

STATEMENT OF PAST PERFORMANCE

(For the past three financial years and the current financial year till the date of bid submission)

Sr. Divisional Materials Manager,
Eastern Railway, Sealdah
Kolkata- 700 014.

Dear Sir,

Sub: Details of Past Performance for similar works/supplies.

Ref: Tender / Bid No. _____ Dated: _____

I/We, the undersigned, hereby declare that we have successfully executed the following orders for the supply, installation, and commissioning of the same item (**supply, installation, testing and commissioning of SMC Terminals as per the Specifications attached with this bid**) during the past three financial years and the current financial year up to the bid submission date:

S. No.	Name & Full Address of the Purchaser / Consignee	Purchase Order (PO) / Work Order No. & Date	Ordered Quantity	PO Value (in Rs.)	Actual Date of Completion	CRN/ CRAC copy Attached? (Yes/No & Page No.)
1						
2						
3						
4						
5						

Add additional rows as necessary.

Mandatory Declarations & Checklist for the Bidder:

1. **Work Order Copies:** I/We confirm that clear copies of all the Purchase Orders (POs) / Work Orders listed above are attached.
2. **Completion Certificates:** I/We confirm that the corresponding **CRN/CRAC issued for successful supply including installation and commissioning of the item** for all listed items are attached.
3. **Accuracy of Information:** I/We certify that the information furnished above is true and correct. I/We understand that if any of the information is found to be false or fabricated, our bid is liable to be summarily rejected, and our firm may face punitive action including blacklisting/debarment as per the law.
4. **Omission of Incomplete Works:** I/We have only included those orders for which the final work execution certificate has been formally received from the consignee. Ongoing works or orders without completion certificates have been excluded from this list to prevent disqualification.

For and on behalf of [Insert Bidder's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of Bidder's Company)

**FORMAT FOR SUBMISSION OF COMPANY REGISTRATION & ISO
CERTIFICATES**

(To be submitted on the Letterhead of the Bidder)

To,

The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Sub: Details of Company Registration and ISO Certifications.

Ref: Tender No. _____

Dear Sir,

With reference to the above-mentioned tender, I/We hereby submit the details of our company registration and ISO certifications as mandated in the eligibility criteria. The self-attested copies of the corresponding documents are securely attached to this declaration.

A. Company Registration Details

- **Name of the Bidder / Firm:** _____
- **Type of Firm:** [Private Ltd. / Public Ltd. / Partnership / Proprietary]
- **Registration / Incorporation Number:** _____
_____.
- **Date of Incorporation/Registration:** _____
(Must be >5 years from bid closing date)
- **Act under which Registered:** [Companies Act 2013 / LLP Act / Partnership Act etc.]
- **Documents Attached:** [MoA & AoA / Partnership Deed / Shop & Establishment Certificate]

B. ISO Certification Details

Certification	Certificate Number	Issuing Authority	Validity Till Date	Attached at Page No.
ISO 9001:2015				
ISO 27001:2013				
ISO/IEC 20000-				

Certification	Certificate Number	Issuing Authority	Validity Till Date	Attached at Page No.
1:2011				

I/We certify that the attached documents are true, valid, and have not been revoked or suspended as of the date of bid submission.

For and on behalf of [Insert Bidder's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of Bidder's Company)

ANNEXURE –VIII

FORMAT FOR NON-BLACKLISTING DECLARATION

(To be submitted on the Letterhead of the Bidder)

The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Sub: Undertaking regarding Non-Blacklisting / Non-Debarment.

Ref: Tender No. _____

Dear Sir,

I/We, _____ (Name of the Authorized Signatory),
representing M/s _____ (Name of the Bidder), hereby
solemnly affirm and declare that our firm/company/consortium has **not been blacklisted,
banned, or debarred** by Indian Railways, any other Ministry/Department of the Government
of India, any State Government, or any Public Sector Undertaking (PSU) from participating
in tenders as on the date of opening of the bids.

I/We further understand and acknowledge that if this declaration is found to be false,
concealed, or incorrect at any stage of the tender or contract execution, our bid/contract shall
be liable for immediate termination under Clause 62 of the Standard General Conditions of
Contract, our EMD/Performance Security shall be forfeited, and our firm may be subjected to
punitive action as per the law.

For and on behalf of [Insert Bidder's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of Bidder's Company)

FORMAT FOR OEM BACK-TO-BACK AGREEMENT

Back to Back Agreement, On Company letterhead

Dated: _____

To,
The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Ref: Tender No. _____

Dear Sir,

We _____ who are established and reputable manufacturers of _____ (name and description of goods) will provide the backend support including software upgrades and ensure availability of spares for a period of **05 years**. We will also be responsible for successful implementation of the offered products to ensure timely, efficient and optimized systems operations.

We shall be providing our service supports to M/s _____ from all our service centers located at remote site across India.

We confirm that in case of default in execution of this in this tender by, we shall take necessary steps in the execution of all supply orders placed on, in time as per tender terms, during empanelment period.

We also confirm that in case of default by in providing warranty support, we shall provide direct support at free of cost for items delivered by against this tender, for complete warranty period.

Yours faithfully

For and on behalf of [Insert _____ Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[with Official Company Seal/Stamp] Note: This letter of authority should be on the letterhead of the manufacture and should be signed by a person competent and having the power of attorney to legally bind the manufacturer / service provider.

FORMAT FOR DOCUMENTARY PROOF OF LOCAL SUPPORT OFFICE

(To be submitted on the Letterhead of the Bidder)

To,
The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Sub: Declaration and Documentary Proof of Local Support Office.

Ref: Tender No. _____

Dear Sir,

I/We hereby declare that M/s _____ (Name of the Bidder) possesses the necessary organizational infrastructure to provide prompt technical and maintenance support within the geographical limit of Sealdah Division / West Bengal.

The details of our Local Support/Service Center are as follows:

- **Complete Postal Address of Service Center:**

- **Name of the Resident Engineer / Manager:**

- **Contact Number (Mobile & Landline):**

- **Official Email ID:** _____

Proof of Local Office Attached (Please Tick):

- ☐ Electricity Bill (Recent within 3 months)
☐ Telephone / Landline Bill (Recent within 3 months)
☐ Valid Rent / Lease Agreement
☐ GST Registration Certificate (Showing the above local address)

I/We agree that the Railway Administration reserves the right to physically inspect the aforementioned service center during the technical evaluation process to verify its functional status.

Signature of Authorized Signatory: _____

Name & Designation: _____

[Company Seal]

FORMAT FOR OS DEVELOPER CERTIFICATE / AGREEMENT

(To be submitted on the Letterhead of the OS Developer / Bidder)

To,
The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Sub: Declaration regarding Operating System (OS) Customization and Support.

Ref: Tender No. _____

Dear Sir,

(Strike out whichever is NOT applicable)

[OPTION A - If the Bidder is the in-house developer of the OS]:

I/We, M/s _____, hereby certify that the Operating System (OS) provided over the thin clients of the SMCs has been developed and strictly customized by us as per the Indian Railway requirements. We guarantee to provide comprehensive software support, including all necessary patches and firmware updates at no additional cost, for a period of **05 Years** from the date of final commissioning.

[OPTION B - If the Bidder is NOT the developer, requiring an OEM Back-to-Back Agreement]:

We, M/s _____ (Name of the OS Developer / OEM), hereby confirm that we are the original developers of the OS installed on the Thin Clients supplied by M/s _____ (Bidder Name). We confirm that we have entered into a back-to-back agreement with the bidder. We explicitly state and guarantee that we shall provide backend support, system updates, and firmware patches for the said OS for a period of **05 Years** from the date of product commissioning.

For and on behalf of [OS Developer / Bidder Name]: _____

Signature of Authorized Signatory: _____

Name & Designation: _____

Date & Place: _____

[Company Seal]

ANNEXURE –XII

FORMAT FOR ENGINEER CREDENTIALS & STATUTORY COMPLIANCE
(To be submitted on the Letterhead of the Bidder / SMC OEM)

To,
The Sr. Divisional Materials Manager
Eastern Railway, Sealdah,
Kolkata - 700 014.

Sub: Declaration of Qualified Engineers and Statutory Compliances (ESIC/EPF).

Ref: Tender No. _____

Dear Sir,

I/We hereby certify that we have deployed the requisite technical manpower at our local service center to provide uninterrupted maintenance support for the SMCs. We confirm compliance with the tender requirement of having at least **one qualified engineer per 20 ATVM locations** (Minimum 05 engineers for this tender).

The details of the deployed qualified engineers, along with their ESIC and EPF particulars for the past three months, are as follows:

S.No.	Name of the Qualified Engineer	Designation / Qualification	Mobile Number	ESIC Registration No.	EPF UAN No.
1					
2					
3					
4					
5					
(Add rows as necessary)					

Mandatory Attachments:

1. Self-attested copies of Educational/Technical Qualifications for all listed engineers.
2. ESIC Contribution Challans/Receipts for the past 3 months.
3. EPF Contribution particulars/Receipts for the past 3 months.

I/We certify that all engineers listed above are on the direct payroll of our firm/company and are fully qualified to maintain, troubleshoot, and repair the offered SMC kiosks.

For and on behalf of [Insert Bidder's Company Name]:

Signature: _____

Name: _____

Designation: _____

Contact Number: _____

Official E-mail Id: _____

Date: _____

[Official Company Seal/Stamp]

(Must be signed by the Authorized Signatory of Bidder's Company)

BIDDER SUBMISSION CHECKLIST**(To be duly filled, ticked, signed, and uploaded along with the Bid)****Tender / Bid No.:** _____**Name of the Bidder:** _____

I/We hereby confirm that we have meticulously prepared our bid according to the Additional Terms and Conditions (ATC) and have attached the following mandatory documents. I/We understand that failure to submit any of these documents may render our bid unresponsive and liable for summary rejection.

SECTION A: MANDATORY ANNEXURES & DECLARATIONS

S.No.	Document / Requirement Description	Submitted? (Yes/No/NA)	Remarks
1	Annexure I: Proforma for Authority from OEMs (If bidding as an authorized agent/representative).		
2	Annexure II: Warranty Undertaking (36 months onsite warranty / 42 months from supply completion by Bidder).		
3	Annexure III: Item-wise Technical Compliance Sheet (Signed by Primary SMC OEM and Subcomponent OEMs).		
4	Annexure IV: Bidder/ OEM Declaration of SMC Subcomponents and Manufacturing Details (from Primary SMC OEM/ Bidder).		
5	Annexure V: Subcomponent Manufacturer Compliance Declaration (from outsourced component manufacturers-OEMs).		
6	Annexure VI: Statement of Past Performance (For the past 3 financial years and current year of the Bidder).		

S.No.	Document / Requirement Description	Submitted? (Yes/No/NA)	Remarks
7	Annexure VII: Format for Submission of Company Registration & ISO Certificates.		
8	Annexure VIII: Non-Blacklisting / Non-Debarment Declaration.		
9	Annexure IX: OEM Back-to-Back Agreement (Required if bidder is not the OEM of subcomponents).		
10	Annexure X: Documentary Proof of Local Support Office Declaration.		
11	Annexure XI: OS Developer Certificate / Agreement (In-house certificate or OS Developer Back-to-Back Agreement).		
12	Annexure XII: Engineer Credentials & Statutory Compliance Declaration (ESIC/EPF).		

SECTION B: PAST PERFORMANCE & ELIGIBILITY PROOFS

S.No.	Document / Requirement Description	Submitted? (Yes/No/NA)	Reference Page No(s).
13	Copies of Purchase Orders / Work Orders proving execution of minimum 35% of tendered qty in a single order.		
14	CRN/CRAC issued for successful supply including installation and commissioning of the item		
15	Company Registration Proofs (MoA/AoA, Partnership Deed, etc. proving registration for >5 years).		

S.No.	Document / Requirement Description	Submitted? (Yes/No/NA)	Reference Page No(s).
16	Self-attested copies of Valid ISO 9001:2015, ISO 27001:2013, and ISO/IEC 20000-1:2011 Certificates.		

SECTION C: TECHNICAL & MAINTENANCE PROOFS

S.No.	Document / Requirement Description	Submitted? (Yes/No/NA)	Reference Page No(s).
17	Product Data-Sheets & Brochures (Attached with Annexure III for respective subcomponents).		
19	Support Hierarchy & Complete Escalation Matrix of the bidder and Original Equipment Manufacturers.		
20	Proof of Local Service Center (Electricity bill, Rent agreement, or GST registration showing West Bengal/Sealdah address).		
21	Self-attested Educational/Technical Qualifications of at least 05 local qualified engineers (1 per 20 ATVM locations).		
22	ESIC Contribution Challans/Receipts of listed engineers for the past 3 months.		
24	EPF Contribution Particulars/Receipts of listed engineers for the past 3 months.		
25	Signed and stamped copy of the Special Terms and Conditions / ATC document as proof of acceptance.		

DECLARATION:

I/We certify that all the documents listed above have been checked, securely attached, and accurately page-numbered. I/We understand that submission of incomplete documents or false information will lead to disqualification of our bid and forfeiture of the Earnest Money Deposit (EMD).

For and on behalf of [Insert Bidder’s Company Name]:

Signature of Authorized Signatory: _____

Name: _____

Designation: _____

Contact Number: _____

Date: _____

Place: _____

[Official Company Seal/Stamp]

PRELIMINARY TEST CERIFICATE

SUB: INSPECTION DEMAND NOTE:-

Power on Tests and physical Inspection of the SMCs And Its Sub-components, RFID Smartcard Reader/Writers, Smart card Station Management Console for Any Physical Damage.

PURCHASE ORDER NO:

DATED:

Against the above mentioned purchase order, the items detailed below have been received on -----

Sr.No	Item Description	Qty

It is certified that above mention items confirms the specification requirement of the purchase order and all the items required as per purchase order have been to consignee as per terms and condition of purchase order.

	Vendor	Railway
By		
(sign)	-----	-----
Name	-----	-----
Design.	-----	-----
Date:	-----	-----

FINAL COMMISSIONING CERTIFICATE

Purchase Order No.

Dated

Name of site:

Name of Zonal Railway:

Name of Item:

Name of Vendor:

Against the above mentioned purchase order, the items detailed below have been successfully commissioned after installation and testing. The training as required has also been provided by the vendor as per specifications in the PO. All the supply/delivery/commissioning formalities under the contract/purchase order have been fulfilled/complied by the supplier.

Sr.No	Item Description

	Vendor	Railways
By		
(sign)		
Name	_____	_____
Design.	_____	_____
Date	_____	_____

UTS cum PRS (with Modernize PRS) Thin Client Specification

S.No	Item	Description
1	Processor	Quad core Processor with base Frequency of Min 1.10 GHz or above and Burst Frequency of min 2.40 GHz or above (Fanless model)
2	Memory	4GB or above DDR3 or higher
3	Flash/SSD/DoM Memroy	32 GB (16 GB usable + 16 GB OP) or above Usable MLC/3D-TLC SATA/mSATA/M.2/eMMC in primary slot or onboard primary
4	Redundant Flash/SSD/DoM (in slot other than primary)	32 GB (16 GB usable + 16 GB OP) or above Usable MLC/3D-TLC SATA/mSATA/M.2/eMMC or onboard primary
5	Power supply	Internal SMPS/External with 110-240 V or 90-264V 50 Hz
6	Keyboard & mouse	PS2/USB based 104/107 Keys Mechanical keyboard and scroll mouse.
7	Monitor	18.5" or higher TFT/LCD/LED color monitor (Compatible to Resolution 800 x 600 and 1366 x 768)
8	Emulation Support	For PRS, VT100/VT220/VT320 emulation support over RS232/LAN through telnet with PRS forms downloading feature, answerback support (in disabled mode) over telnet. ISCII 83 for printing PRS tickets. Programmable function key should not be supported in emulation. Support for barcode printing (both for 1D and 2D) through escape sequence in terminal emulation. Support for RFID Smartcard reading as per CRIS requirement through escape sequence in terminal emulation. The thin client should be capable of printing both ASCII and ISCII characters. In ISCII it should support printing of ISCII 83 and ISCII88 codes (Chart printing in Hindi as well as English). For UTS, VT100/VT220/VT320 emulation support through telnet with forms downloading feature. Separate login should be provided for UTS and PRS through Emulation.
9	Ports	One centronics parallel printer port. Two serial ports DB 9 pin (Male), one for printer & other for MUX or host connectivity.
10	Connectivity	10/100/1000 Mbps auto sensing LAN interface
11	Accessories	Four USB ports with option of storage class enabling/disabling using admin password. (by default it should be disabled for storage class)
12	Networking	Support for scp, ssh, cron TCP/IP with DHCP, DNS support
13	Should have following O/S and S/W embedded	<p>1. 64 bit Embedded linux with Kernel 4.x.x or above (minimum version should be 4.18.x)(here 'x' can vary). OS Size should be less than 2.0 GB on onboard/primary flash memory. (OS size includes Kernel, libraries required to run CRIS UTS Application, terminal emulation with Devanagari support, X-window Interface, Mozilla Browser etc. However, OS size excludes JRE.)</p> <p>2. JRE version 1.6 and 1.8 or above. (JRE 1.6 for SMC and JRE 1.8 or above for Modernize PRS)</p> <p>3. Latest version of Mozilla Firefox browser available with kernel 4.x.x and with intraction with peripherals devices and option to import security certificates. Option to upgrade should be available.</p> <p>4. Document viewer plug-in for PDF printing (multiple page printing support)</p> <p>5. SAP Sybase ASA version 17 or above which shall be provided by CRIS</p> <p>6. CRIS/UTS application (both front end and back end which shall be provided by CRIS). Master copy of the pre-installed image should be provided to CRIS on DVD/Pendrive.</p> <p>7. All the drivers for peripherals like display, printer and networking components. Local terminal configuration utility.</p> <p>8. Latest version of freetype, ssl and pango</p> <p>9. Utility to monitor flash memory PE cycles/TBW</p>

S.No	Item	Description
		Note: 1. The costing of Sybase ASA license is not to be borne by the vendor. 2. Should be able to simultaneously run both UTS and PRS application with switching through Hot Keys. 3 Should be able to simultaneously run both UTS and SMC application with switching through Hot Keys.
14	Remote Manageability	Administrator be able to do a remote installation from a central location, management of operating system, updates, patches and application software of all thin clients, asset information. Administrator should be able to Remotely control Network setting, Power options, Restart options.
15	Other supports	Multi session/Multi host support. Support for printing to both Dot Matrix, Thermal Printer and Laser Printer. Community string: uts.<zone_code>.ic! Traps to be enabled: linkup, link down, cold start SNMP community version snmpv2c should return attributes: Host name, Mac-Address, OS and its version
16	Compatibility	Compatibility with Sybase Anywhere (ASA version 16 or above) CRIS application in C, C++, Java and Web Based. Indian Language printing support VT100/VT220/VT320 emulation support for UTS local application display.
17	Printing	Bi-directional printing support, ISCII support (for printing in Hindi), USB printing, lpr printing
18	Construction	Vertical/Book End
19	Regulatory Compliance	For Thinclient: Self certified RoHS (Restriction of Hazardous Substances) compliance. BIS Certification
20	Security	Password protected local terminal configuration O/S should be tampered proof root password recovery module must be removed TLS version 1.3 or above supported by offered OS and browser. Upgrade option should be available.
21	Other OS features	Automatic Application Startup feature
22	Warranty	3 years on site on call support
23	Power consumption of total solution	Thin Client: 65W or less Monitor: 30W or less
24	Upgrades	Browser upgrade through patch - Twice a year (as per CRIS recommendation) TLS upgrade through patch - Twice a year (as per CRIS recommendation)

Technical Specification for UPS

Type		Line interactive
Technology		UPS with AVR and PWM
Output		
	Output Power Capacity	600 VA or higher
	Nominal/Rated Output Voltage	230 VAC +/- 10%
	Output Frequency (sync to mains)	50Hz +/- 1Hz
	Overload Warning/ Trip.	Yes
	Overload capacity	1 Minute for 110%
	Waveform Type	Stepped approximation to sine Wave
	Output connections	4 Numbers Indian Sockets. (Battery Backup and surge protection)
	Power Factor	0.6 or higher
Input		
	Nominal/Rated Output Voltage	230 VAC Normal (Range 195-255 VAC)
	Input Frequency	50 Hz up (Auto sensing)
	Input Connections	India 3 Pin, 6A socket
	Cord Length	1.00-2.00 meters
	Input Voltage Range	160-280 VAC
Batteries		
	Battery Type	Sealed Maintenance free- SMF
	No. of battery	Two (internal)
	Voltage, Ampere	2x12V, 7AH
	Protection	Battery Discharge protection.
	Transfer Time.	4-6 milli second
	Typical recharge time	8 hours to 90% capacity after complete discharge
	Typical Backup Time at Full Load	Minimum 25 minutes
Communication & Management		
	Control Panel	LED status display on
		on mains.
		on battery
		on Overload
	Audible Alarm	on battery
		Battery low
		Overload

Protection and Filtering	Mains input	Mains input fuse/Breaker for overload and short circuit.	
	Short circuit	Fuse/Breaker in main mode	
		Electronic cut off in Mains mode	
	Surge	Protection against surge	
Environmental	Operating Environment	0 - 40°C	
	Operating Relative Humidity	0 - 90% non-condensing.	
	Audible Noise at 1 meter from surface of unit	< 45 dBA.	
Warranty and support		3 year on-site	

(1) Smart Card Reader		
S.No	Item	Description
1	ISO14443A Smart Card Reader with SAM 4 SLOTS for existing Mifare 1K classic cards & DESFire family Cards. The command set for reading existing Mifare 1K classic cards on reader given in the Annexure A2.	
2	Operating distance	Up to 100 mm
3	FIFO depth (byte)	Physically must be 64 bytes, logically must be extended to 256 bytes
4	Host interface	8 BIT or higher PARALLEL / SPI
5	Interface frequency	13.56MHz
6	Modulation & Data Coding	ISO14443A
7	Baud rate	57600bps-N-8-1
8	Thin Client to Reader Interface	RS 232
9	Communication Standards	1. ISO14443 -2, -3, -4
		2. ISO7816 (T=1), Interface supporting standard Bit rates with options of supporting up to 1.5 Mbps
10	Communication Protocols	MIFARE CLASSIC & T=CL
11	Crypto Support	Should support MIFARE Crypto & Secure Non-Volatile Internal Key Memory
12	Security Feature	Should support high security Terminal with SAM's based on DES, TDES & AES with secure storage & secure downloading of keys
13	Supply Voltage	12V
14	Power down mode current typical [mA]	10
15	Wake time (micro sec)	1000 (Host to Controller)
16	Temperature Range	0°C to 50°C
17	Controller & Host communication	Should be able to open 1 single device serial interface for communication
18	Should be enclosed in an enclosure made of durable heavy-duty material.	

CRIS 1k Card Commands for RFID SMARTCARD READER

READER VERIFICATION

Cmd: "Rcr"

Answer : Name of Company | version

READER IDENTIFICATION

Cmd: "crg"

Answer : Station Id

CARD SELECTION:

Cmd: "crs"

Answer: Card SNR number (8 bytes) and with data of manufacturer block "N" if no tag is present

LOGIN COMMAND

Cmd: "crl0,sectorNumber,KeyType,Key"

Example: crl01AAFFFFFFFFFFFFFFF

Answer: L(successful login) or

F(login failed) or

N(No tag)

READ COMMAND

i) Cmd: "crr,blockNumber"

Answer: DATA or "N" for no tag or "F" read failure

Example : crr02 // read from block 2

ii) Cmd : "crv,blockNumber"

Example : crv07 // reads value of block 7

Answer: Data or "N" for no tag or "F" read failure

iii)Cmd: "crrAr"

Answer: Full data of Railway smart card from all blocks from all the sectors in one go(Single command).

Example : crrAr01020304 ..can be upto... 40 //will read data from given block(s)

iv) Cmd: “crr,register Number”

Answer: Data or “N” for no tag or “F” read failure

Example : crre06 //for reading register 6 which is for baud rate

Answer : will be 03 if the baud rate is 57600

WRITE COMMAND

iv)Cmd : “crw,blockNumber,data”

Answer : Data (if successful) or “N” no Tag or “F” write failure or “X” generic error

Example: crw0533424330364335303031000000000000 // write to the block 5 with 32 bytes of hex data in sector 1

ii) Cmd : “crwv,valueBlockNumber,data”

Answer : Data (if successful) or “N” no Tag or “F” write failure or “X” generic error

Example : crwv06010055EF // write the value in block 6

iii)Cmd : “crwm,keyNumber,key”

Answer : “N” no Tag or “F” write failure or “X” generic error

Example: crwm00112233445566 // store key 112233445566 in EPROM which is key 0

iv)Cmd : “crw,sectorTrailerNumber,key AA ,Access bits, KeyBB”

Answer : “N” no Tag or “F” write failure or “X” generic error

Example :w07000000000000FF078069AABBCCDDEEFF

For protocol Configuration Register and for Baud Rate

v) Cmd : “crwe,registerNumber,value to set”

Answer : “N” no Tag or “F” write failure or “X” generic error

Example : crwe0600 // set reader baud rate to 9600

vi) Cmd : “crwA,data” //It should write full Railway smartcard data in one go(Single command).

Answer : It should return all same data written on the card or “N” no Tag or “F” write failure.

INCREMENT COMMAND

Cmd :cr+,blockNumber,data

Answer : Data (if successful) or “N” no Tag or “F” increment failure or “X” generic error or “I” no value block

Example : cr+0100000100

DECREMENT COMMAND

Cmd :cr-,blockNumber,data

Answer : Data (if successful) or “N” no Tag or “F” decrement failure or “X” generic error or “I” no value block or “E” decrement failure, empty

Example : cr-0100000100

COPY COMMANDS

Cmd : “cr=,blockNumber1 ,to blockNumber2”

Answer : Data (if successful) or “N” no Tag or “F” increment failure or “X” generic error or “I” no value block

Example :cr=0405

READ/WRITE USER PORTS

Cmd : “crpr”

Answer : Will return port number of the reader

Cmd : “crpw00” (clearing user port)

Answer : Clear the user port

Cmd : “crpw01” (sets user port)

Answer : Set the user port

Technical Specification of UTS Thermal Ticket Printers

Ticket Printer		
S No	Item	Description
1	Print Method	Direct Thermal or Thermal Line
2	Fonts	Special fonts for Railways. All vowel characters should be printed in italic. Provision should be available for loading customized Railway font in the firmware as default font.
3	Character Size	Font A: 12x24
4	Multi Language Support	With multi-lingual support, for Indian Languages with Hindi and English as default and other regional language support for future.
5	Resolution	200 dpi or more
6	Printing Speed	100 mm or more per sec
7	Fast print response	Instant print operation, no warming up
8	Paper width	81 mm
9	Printable width	77 mm
10	Paper length	90 mm
11	Printable length	86 mm
12	Paper weight	Minimum 100 gsm
13	Paper thickness	100 um or more
14	Paper type	Thermal
15	Sensitivity side	Outside
16	Paper feed speed	150 mm/s (Continuous paper feeding)
17	Roll Capacity	Should have provision for a single roll supporting 500 tickets
18	Paper Cutter	Automatic & Integrated and High Speed
19	Print Head Life	100 km paper length
20	Cutter life	Minimum 0.7 million cuts with 100 gsm paper
21	Paper loading	Printer should have feature of auto loading & auto adjustment of paper so that in any case, no ticket should be wasted and paper should be adjusted at its proper position. This should be designed in such a way that different length of ticket stock should be accommodated.
22	Emulation	Epson Compatible (Epson ESC/P). Printer should support full command set of ESC/P.
23	Bar Code Support	Support for graphics printing capability. It should omit carriage return command in between graphics printing.
24	Printer Monitoring & Status	Very comfortable & comprehensive monitoring program for checking & verifying all main printer functions (Paper out, printer cover open, power off/on, ticket delivered etc.) and status messages from the printer through Serial and Parallel/USB port. All these status should be returned in

		response of commands so that ticket printing application can be programmed to retrieve the status messages of the printer.
25	Black mark recognition	To control printing & cutting of pre-printed tickets, Width of Black Mark: 81 mm; Height of Black mark: 4 mm.
26	Sensors	Sensors for cover open paper out and ticket print status success/failure. In case of any manipulation / tampering with sensor, printer should not print ticket.
27	Reliability (MCBF)	37 million lines
28	Temperature	5°C to 45°C
29	Humidity	10 to 90% RH
30	Power Requirement	90 V to 240 V AC
31	Usable Paper	Top Coated Thermal Paper
32	Receive Buffer	45 bytes to 4 KB
33	Interface	<ol style="list-style-type: none"> 1. Bi-directional Serial and 2. i) Bi-directional Parallel or ii) USB <p>One Serial port is mandatory. Second port can be either parallel or USB. Printer should print ticket irrespective of the fact whether it is connected to serial, USB or Parallel port.</p>
34	Printer to stop printing when printer cover is open. It should clear the remaining ticket buffer when power off or printer cover open.	
35	Printer must support printing of ticket with ticket length as per black mark (not as per fixed length) so that different length ticket stationary can be accommodated in the same printer.	
36	Printer should return NOT READY status when not able to print the ticket (i.e. paper out, cover open, head open or any other error in printer).	
37	At the time of loading of paper roll (including printer power on/off and cover open), printing should start from the second line.	
38	Printer should have paper guider to align the paper.	
39	All the feed buttons should be disabled. Printer should have only power button.	
40	In case of Serial interface default baud rate should be 38400.	
41	Return Status from printer	<ol style="list-style-type: none"> 1. Serial Interface: Printer Ready – 4126 (in hex), Printer not ready – 4006(in hex) 2. Parallel Interface: Printer ready – DF (in hex), Printer not ready – 7F (in hex) 3. USB Interface: Printer ready – 18 (in hex), Printer not ready – any other positive value
42	Line spacing	Default line spacing should be 1/8 inch. It should also support 1/6 inch line spacing.
43	Regulatory Compliance	BIS Certification as per IS 13252 (Part 1):2010

44	Facility to monitor number of power on counts, number of auto cut counts, number of times the printer cover has been opened, whenever required in response of commands. These counters should be reset to zero in response of some reset commands. Status of ticket printed and delivered - success/failure should be returned in response of command.
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TECHNICAL SPECIFICATION OF KEYBOARD & MOUSE

Item	Parameter	Required Specification
Keyboard	Type	Mechanical Keyboard
	Connectivity & Interface	Wired USB
	Number of Keys	104 or higher
	Life of Keyboard	50 million Key Strokes or higher
	Additional Features	Dust-proof and must be fitted with mechanical switches and have laser etched keys.
	Warranty	OEM On-site Warranty of minimum 03 years or higher
Mouse	Type	High precision optical movement detection
	Connectivity	Wired USB
	Number of Buttons	2 or higher (minimum)
	DPI	400 or higher
	Warranty	OEM On-site Warranty of minimum 03 years or higher
(i) Agreement: Back-to-Back agreement between bidder/supplier and OEM required. (ii) Mouse Pads to be supplied additionally.		

TECHNICAL SPECIFICATION OF MONITOR

Monitor	Panel Type	In plane Switching (IPS) with LED Backlit
	Screen Size (Diagonal)	23.8 Inch or higher.
	Resolution	1920x1080 (Full HD)
	Aspect Ratio	16:9
	Brightness & Contrast	Brightness (Nits): 250 or higher. Contrast Ratio (Min.): 1000:1 or higher.
	Response Time (Minimum)	5 milliseconds or lower
	Refresh Rate	120Hz or higher
	Mounting Arrangement	Table Mount
	Ports Required	VGA Port and HDMI Port
	Accessories Included	HDMI cable to be provided with monitor
	Certifications	BIS
	Warranty	OEM On-site Warranty of 03 years or above
	Agreement	Back to Back agreement between bidder/supplier and OEM of Monitors required