



दूचना प्रौद्योगिकी और संचार विभाग

**GOVERNMENT OF RAJASTHAN**  
**Department of Information Technology & Communication**

No.: F.5 (1388)/ DoIT/ Tech/ 2021/ ML-3691/1022

Dated: 07/01/2022

**Minutes of 89<sup>th</sup> meeting of SeMT dated 30-12-2021**

The Eighty Ninth (89<sup>th</sup>) meeting of the State e-Governance Mission Team (SeMT) was held under the Chairmanship of Principal Secretary, IT&C on 30<sup>th</sup> December, 2021 at 11:30 AM through Video Conferencing. List of participants is enclosed at **Annexure - "A"**.

Agenda Items discussed during 89<sup>th</sup> meeting of SeMT are indexed as follows:

S. No.	Name of Project	Dept.	Page No.
1	Procurement of Computer Hardware & Allied Items	Water & Sanitation Support Organization (WSSO) - PHED	1
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4	(a) Establishment of Smart Classroom in 8766 No. of Schools (b) Establishment of ICT Computer Labs in 398 No. of Schools		3-5
5	(a) Establishment of- (i) 2 Studio Room (ii) 4 Video Conferencing (VC) set-up (b) Procurement of Tablet(s) for Digital Library Establishment in 700 of Schools (c) Establishment of Robotics Lab in 201 No. of Schools (d) Establishment of Computer Lab in 450 No. of Schools	Rajasthan Council of School Education (RCSCE), Jaipur	5-9
6	Procurement of end user computing h/w	Commercial Taxes Dept. (CTD)	9-10
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8	Revised Project Proposal of Employment Exchange Management System (EEMS)	Employment Dept.	11-12
9	Development of e-Mitra Suite and O&M of existing e-Mitra application (for 1 year) and eMitra Suite (for 5 years)	Dept. of IT&C	13-14
10	Design, Development, Implementation and Maintenance of Integrated e-Governance Solution 2.0 for RSPCB covering end to end business processes under various Acts and Rules	Rajasthan State Pollution Control Board (Dept. of Environment & Climate Change)	15-18
11	Procurement of Computer H/w & Allied Items	College Education Dept.	19
12	(i) Digitization of around 2 Crore historical records, and (ii) Development of an application s/w of Rajasthani/ Marwari language for translation of ancient manuscripts/ records available in Rajasthan State Archive Directorate (RSDA) along-with development of an App for learning Rajasthani/ Marwari language	Art, Literature, Culture & Archeology Dept. (ALC&AD)	19-20

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The followings were discussed in the meeting:

**1. Project : Procurement of Computer Hardware & Allied Items for Water & Sanitation Support Organization (WSSO) - PHED**

The Committee was briefed about the proposal as PHED is extending its IT spectrum by bringing more and more services under its umbrella in a phased manner. To strengthen the IT infrastructure required to support JJM, provision of procurement of IT infrastructure has been taken in the Annual Action Plan 2021-22 for WSSO under JJM.

For saving the time, money and efforts of the procuring entities required in inviting and processing bids individually, these items should preferably be procured from Dept. of IT&C/ RajCOMP Info Services Ltd. (RISL)/ National Information Center Services (NICSI). In case of no availability of Rate Contracts of Dept. of IT&C, procurement of these items should be exercised through open competitive bidding on e-proc portal by WSSO.

**Requirement of Items & its Financial Implication are as mentioned below:**

(Rs. in Lakh)

S.No.	Item	Qty. (Nos.)	Estimated Cost
1	Desk VC solution, FTTH Broad band, Bandwidth Management System, 100 MBPS ILL	33	367.00
2	Desktop Computers	400	240.00
3	Multi-Function Printers	400	80.00
4	Anti-Virus Software	700	14.00
5	UPS	50	3.00
6	Laptops	170	137.00
<b>Total</b>			<b>841.00</b>

Technical Specifications for above items are at **Annexure - "B"**.

**Financial Implication:**

The estimated cost of the project is Rs. 841.00 Lakh.

**Fund Management:**

Expenditure would be met from the funds available with WSSO/ PHED.

Dept. is advised to adopt the video conferencing solution (VC) from RajCOMP Info Services Limited (RISL) and also to take the network services from RISL as RISL has rate contract for both the services and have enough expertise also.

**The Committee accords technical approval on the proposal having estimated cost of Rs. 841.00 Lakh; subject to the availability and approval of funds from Finance Dept.**

**2. Project : Procurement of Computer Hardware & Allied Items for State Insurance & Provident Fund (SI&PF) Department.**

The Committee was briefed about the proposal. SI&PF Dept. intends to procure computer hardware & allied items as the present computer hardware available with Dept. are outdated/ old and Dept. is in process to declare it un-useful.

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**Requirement of Items and its Financial Implication submitted by Directorate, SI&PF are as mentioned below:**

(Rs. in Lakh)			
S. No.	Item	Qty. (Nos.)	Estimated Cost
1	Desktop (i5 8GB RAM, 1TB HDD)	183	91.50
2	Laptop	02	1.40
3	Scanner	41	18.45
4	Printer Inkjet Monochrome	96	19.20
5	Desktop (i7 16GB RAM, 1TB HDD)	05	5.00
6	MS Office	05	2.10
7	Printer Inkjet Color (B/W 20PPM, Color 15 PPM)	02	0.50
<b>Total</b>			<b>138.15</b>

Technical Specifications for above items are at **Annexure-C**.

**Financial Implication:**

The estimated cost of the project is Rs. 138.15 Lakh.

**Fund Management:**

Expenditure would be met from the funds available with SI&PF Dept.

Keeping in view of the fact of urgency of work, technical approval has already been accorded by Principal Secretary, IT&C as being the chairman of SeMT.

**The Committee accords ex-post-facto technical approval on the proposal having estimated cost of Rs. 138.15 Lakh; subject to the availability and approval of funds from Finance Dept.**

**3. Project : Procurement of Hardware & Allied Items for Social Justice & Empowerment Dept. (SJED), GoR, Jaipur**

The Committee was briefed about the proposal. In reference to the Hon'ble Chief Minister's budget announcement No. 114 and 323/ 2021-22; Dept. need to procure Computer, Printer, Smart LED TV & Drinking Water Cooler etc. for different Govt. Hostels run by SJED.

**Details of the ICT items required for the project:**

S. No.	Item	Quantity (Nos.)
1	SMART TV 43 inch or above 4K Display/ TV/ Panel	515
2	Desktop Computer (i3 or higher)	515
3	Multi-Function Printer (Monochrome Ink Tank)	515
4	Integrated Interactive Smart Teaching Board [including Desktop Computer (i5 or higher), Screen Interactivity]	83

Technical Specifications for above items are at **Annexure-D**.

**Estimated Financial Implication:**

(Rs. in Lakh)				
S. No.	Particulars	No. of Hostels	Amount Per Hostel	Total
1.	Internet, Printer, Computer, and Smart LED TV	515	1.00	515.00
<b>Total</b>				<b>515.00</b>

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**Fund Management:**

Expenditure would be met from the funds available with SJED.

*Keeping in view of the fact of urgency of work, technical approval has already been accorded by Principal Secretary, IT&C as being the chairman of SeMT.*

**The Committee accords ex-post-facto technical approval on the proposal having estimated cost of Rs. 515.00 Lakh; subject to the availability and approval of funds from Finance Dept.**

**4. Project : (a) Establishment of Smart Classroom in 8766 No. of Schools by Rajasthan Council of School Education (RCScE)**

The Committee was briefed about the proposal as in compliance with point No. 35 of Budget Announcement for the financial year 2021-22, there is a provision of Rs. 1.20 Lakh per classroom for Smart classroom with smart T.V. and set-top box.

**Requirement of ICT item(s) for establishment of Smart Classroom submitted by RCScE is as mentioned below:**

S. No.	Items Descriptions	Quantity
1	IFPD ( Interactive Flat Panel Display TV) 75"	1
2	Set-Top Box with Antenna	1
OEM 3 Years onsite comprehensive warranty		

*Technical Specifications for above items are at Annexure- "E (a)".*

**Financial Implication:**

(Rs. in Lakh)

S.No.	Name of project	Description	Estimated Cost
a.	Establishment of Smart Classroom in 8766 No. of Schools	Non-Recurring SMART Classroom@ Rs. 1.20 Lakh per schools	10519.20

**4. Project : (b) Establishment of ICT Computer Labs in 398 No. of Schools by Rajasthan Council of School Education (RCScE)**

The Committee was briefed about the requirement of ICT item(s) for establishment for each of the ICT Computer Labs submitted by RCScE is as mentioned below:

**i. Non-Recurring (One Time):**

S.No.	Items Descriptions	Qty.
1	Desktop Computer System	02
2	Thin Client System with Monitor, Keyboard, Mouse With Thin Client Management System	08
3	Web Camera	02
4	Wi-Fi Router with SIM facility and Handset Phone	01
5	Multi-Function Printer (ND)	01

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6	Online UPS, 2000 VA with 1 hour backup	01
7	Earthing, Electrifications etc.	-
8	Wall Mount wooden Setup and other facilities in Lab like Tube light(2), Wall/Ceiling Fan(2), Wall Clock etc.	-
9	Project Manager, one at RCSCE HQ from the Inspection (PDI) date	For entire project period
10	Teachers Training Session (Offline/ Online), Once with commissioning of project and Second after completion of second year.	
11	OEM 5 Years onsite Comprehensive	

*Technical Specifications for above items are at Annexure- "E (b)".*

**ii. Recurring (for Project Period i.e. 5 Years):**

S. No.	Items Descriptions	Unit per Schools
1	ICT Lab Instructor	1
2	LMS With Teaching-Learning Content (from class 6-12) with IT Subject Syllabus	1
3	Electricity Facility and Internet Charges for Computer Lab	

**Financial Implication:**

(Rs. in Lakh)

S.No.	Name of project	Description	Estimated Cost
b.	Establishment of ICT Computer Labs in 398 No. of Schools	Non-Recurring Lab establishment @ Rs. 6.30 Lakh per schools and total grant Rs. 2507.40 Lakh for 398 schools <u>Recurring (For 5 years):</u> For E-content LMS, Electricity, Internet Charges and ICT Instructor @2.4 Lac per year per lab. Total recurring amount for five year Rs. 4776.00 Lakh for 398 Schools.	7283.40

**Overall Financial Implication (of Project No.4):**

(Rs. in Lakh)

S.No.	Name of project	Description	Estimated Cost
a.	Establishment of Smart Classroom in 8766 No. of Schools	Non-Recurring SMART Classroom@ Rs. 1.20 Lakh per schools	10519.20
b.	Establishment of ICT Computer Labs in 398 No. of Schools	Non-Recurring Lab establishment @ Rs. 6.30 Lakh per schools and total grant Rs. 2507.40 Lakh for 398 schools <u>Recurring (For 5 years):</u> For E-content LMS, Electricity, Internet Charges and ICT Instructor @2.4 Lac per year per lab. Total recurring amount for five year Rs. 4776.00 Lakh for 398 Schools.	7283.40
<b>Total Estimated Cost</b>			<b>17802.60</b>

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**Fund Management:**

Expenditure would be met from the funds available with RCScE/ Education Dept.

**The Committee accords technical approval on the above mentioned both the proposal(s) having overall estimated cost of Rs. 17802.60 Lakh; subject to the availability and approval of funds from Finance Dept.**

**5. Project : (a) (i) Establishment of 2 Studio Room, and (ii) 4 Video Conferencing (VC) set-up by Rajasthan Council of School Education (RCScE)**

The Committee was briefed about the project prosomal as Rajasthan Council of School Education (RCScE), Jaipur/ Education Dept. intends to setting-up/ establish (i) 2 Studio Room, and (ii) 4 Video Conferencing (VC) set-up.

According to the approval received under DIKSHA activity in Samagra Shiksha P.A.B. according to the approved action plan by the Rajasthan Council of Education Research, Udaipur, the total allocated amount is Rs. 52.20 Lakh for two (2) studios and four (4) VC setup in the state.

**(a) (i) STUDIO ROOM-**

Detailed requirement of ICT item(s) for establishment of 2 Studio Room Set-up submitted by RCScE is as mentioned below:

<b>S. No.</b>	<b>Item Description</b>	<b>No. of Unit/ Set</b>
1	Interactive Flat Panel Display	2
2	Video Camera	2
3	Capture Card	2
4	Wireless Mic	2
5	Computer System	2
6	Display	2
7	Broadcast Software	2
8	Air Conditioner	2
9	UPS	2
10	Studio Coordinator	For 12 Months
11	Electrical & Civil Work	As per site requirement
Note	Teachers Training Session (One Day), at State Level with Desired Infra (as above)	
	Total Proposed Cost including Supply, Installation, Testing, Commissioning & Training for the Contract Period of 3 Year	

Technical Specifications for above items are at **Annexure-F (a) (i)**.

**(a) (ii) VC SETUP-**

Detailed requirement of ICT item(s) for establishment of 4 VC set-up submitted by RCScE is as mentioned below:

<b>S. No.</b>	<b>Item Description</b>	<b>No. of Unit/ Set</b>
1	Display	4
2	Computer System for Video Conferencing	4
3	PTZ Camera	4
4	Speaker Microphone	4

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5	UPS	4
6	Accessories	As per site requirement
Note	Teachers Training Session (One Day), at State Level with Desired Infra (as above)	
	Total Proposed Cost including Supply, Installation, Testing, Commissioning, Training for the Contract Period for Two Year	

*Technical Specifications for above items are at Annexure-“F (a) (ii)”.*

**5. Project : (b) Tablet for Digital Library Establishment in 700 Schools by Rajasthan Council of School Education (RCSCE)**

The Committee was briefed about the project prosomal as the establishment of SIG III Digital Library in 2021-22, Twenty (20) tablets and related accessories are to be provided per school.

Detailed requirement of ICT item(s) for establishment of Digital Library submitted by RCSCE is as mentioned below:

**Required item per School:**

S. No.	Items Descriptions	Quantity
1	Tablets Per School with 32 GB Micro SD Card, Headphone/Ear Phone and Back Cover	20
2	Storage for 20 Tablets with Charging Facility	01
3	Preloaded e-Content on Tablet	20

*Technical Specifications for above items are at Annexure-“F (b)”.*

**Preloaded e-Content on Tablet:**

All the Tablet, must be uploaded with PAL based e-content, as per following description (minimum specification criteria). POC will be done along with Technical evaluation.

1. The content should be sequential mapped as per the syllabus and arranged Class, Subject, Chapter and Topic wise.
2. The content should be NCERT/SCERT certified for Class VI to XII.
3. The solution has the ability to identify the actual learning level of each student through diagnostic test on PAL or equivalent Assisted learning Platform. The diagnostic test should be:
  - Adaptive in nature - should have the ability to generate questions using the adaptive algorithm from the question set across varied difficulty levels.
  - Long enough to enable precise calibration of learning level
  - Able to determine knowledge gaps of individual students to enable achievement of proficiency level for his/her grade/subject
4. Should focus on inducing conceptual clarity, model reading, listening experiences etc.
5. The interface and content should operate in native Hindi language. The transition and voice synchronization should be smooth and accurate. Each module should have effective and clear voice over. The content should be also supported by appropriate sound effects also.
6. Each topic should have a set of multiple learning resources including text, images, 2D/3D animated videos, MCQs, Quiz, Glossary and key-terms etc.

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7. Should be presented in the form of 2D and/or 3D animation along with audio, video for easy understanding by the students.
8. Should be interactive, and teacher should be able to vary the parameters to show learning through exploration.
9. PAL Based Content should have Analytics Capability covering-
  - Ability to identify the actual learning level of each student through diagnostic test. The diagnostic test should be:
    1. Adaptive in nature - should have the ability to generate questions using the adaptive algorithm from the question set across varied difficulty levels.
    2. Long enough to enable precise calibration of learning level
    3. Able to determine knowledge gaps of individual students to enable achievement of proficiency level for his/her grade/subject
  - The assessments/content delivered must adapt (to the progressively next or previous concept/ sub-concept) as indicated by the student's responses to questions, tasks and experiences.
  - Should have an inbuilt concept interdependency pathway which defines interdependencies between various concepts and sub-concepts across grades **6<sup>th</sup> to 12<sup>th</sup>** for respective subjects.
  - Ability to determine and inform knowledge gaps of each student at a concept and sub-concept level, and provisioning of hints, solutions and at least some interactive content such as audio-visuals, games etc. to remediate these gaps.

The questions should be made available on 6 by 3 matrix as shown below:

	Remembering	Understanding	Applying	Analyzing	Evaluating
Easy	<input type="checkbox"/>				
Moderate	<input type="checkbox"/>				
Difficult	<input type="checkbox"/>				

#### **Assessments and Content features-**

- Assessments and Content should be aligned with the Rajasthan state board curriculum for classes **6<sup>th</sup> to 12<sup>th</sup>** for Mathematics (in Hindi/English) English, and Science (in Hindi/English), in terms of difficulty level, contextualization of the content, alignment to the topics/concepts which are expected to have been covered in the current or previous classes.
- Assessments and Video Content (including script and audio) to be available in conversational language which is simple to comprehend and with a neutral dialect that can be machine generated or automated by machine so that it's easily understandable by the students.
- In terms of format, Content should have numerous types of assessment questions over and above MCQs. For example, fill in the banks, match the following, ordering, true or false, etc.

#### **5. Project : (c) Robotics Lab Establishment in 201 Schools by Rajasthan Council of School Education (RCScE)**

According to approval received under SIG-V component (skill development) in 2021-22 in STARS project P.A.B., Robotics Lab (STEM) are to be established in 201 schools in the State by RCScE.



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**Scope of Work:**

1. This Robotics Lab will be implemented in 201 Secondary and Senior Secondary schools. Successful bidder should provide One Years Comprehensive Warranty on Hardware/SW items and maintain the lab during warranty period.
2. The scope of work will include Supply of items/equipment of Robotics Lab as per Bill of Material, Installation, Demonstration, Project Maintenance & Monitoring and Training to Teachers as per technical specification during the contract period.
3. Installation & Commissioning: Each equipment / kits of the Robotics Lab will be properly installed and placed by the Supplier in the allocated room of the school. Supplier should also conduct working demonstration of all equipment at the site of delivery and obtain a certificate for satisfactory performance cum delivery report from each school.
4. Each kit of the Robotics Lab should have a Video (Softcopy) and Instructional / Training Manual (Softcopy and Hardcopy) which should be used as Reference guide for the Teachers of each school. Softcopy should be provided in DVD.
5. Training to minimum 2 teachers from each school and continuous support during contract period. Dedicated Project team based in Jaipur to provide any time Online and Telephonic support. Need based physical visit will also be required, as per direction of the Dept. PMU provide project update report on time to time basis to Dept.
6. Bidder to develop and provide Class and topic wise activity book that will be used by Teachers and Students in schools. The activity covered should be as per the NCERT curriculum of respective classes. Activity book should be in Softcopy and Hardcopy- (One no.). Softcopy should be provided in DVD.
7. Bidder to provide Online Teaching Learning platform for Teachers and Students for self-learning and to conduct minimum ten live classes of minimum 40 minutes per class.
8. Safety & Security: Supplier to ensure Safety and Security of all equipment at the time of delivery as well as while working under the complete contract period. The necessary security provision should also be taken care by the Supplier to protect for any kind of incidence at school level. Supplier to furnish a self- declaration regarding safety.

*Technical Specifications for the items of Robotics Lab are at Annexure-F (c).*

**5. Project : (d) Computer Lab Establishment in 462+ Schools by Rajasthan Council of School Education (RCScE)**

The Committee was briefed about this proposal. In compliance with the State Government's budget announcement No. 313.00 for the year 2018-19, out of the total cost of Rs. 3.03 Lakh per school in 5051 schools, the remaining amount will be borne by the State Government after receiving 25 percent local contribution. At present, local contribution has been received for a total of 450 schools.

**Detailed requirement of ICT item(s) PER SCHOOL for establishment of Computer Labs submitted by RCScE is as mentioned below:**

S.No.	Items Descriptions	Nos.
1	Desktop Computer System	01

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2	Web Camera	01
3	Thin Client Kit with Monitor, Keyboard and Mouse	09
4	Line Interactive UPS, 1000 VA with 30 Minutes backup	01
5	Wall Mount Table Top Setup	10
6	Electrifications, Earthing and Networking	Lump-sum
7	Teachers Training Session (Two Times)	2 (Two) Times

*Technical Specifications for above items are at Annexure- "F (d)".*

**Overall Financial Implication:**

		(Rs. in Lakh)	
S.No.	Name of the project proposal	Description	Estimated Cost
a.	Establishment of-		
(i)	2 Studio Room	-	33.20
(ii)	4 Video Conferencing (VC) set-up	-	19.00
b.	Procurement of Tablet(s) for Digital Library Establishment in 700 No. of Schools	Non Recurring Per School @ Rs. 2.2413 Lakh	1568.92
c.	Establishment of Robotics Lab in 201 No. of Schools	Non Recurring Per School @ Rs. 3.20 Lakh'	643.20
d.	Establishment of Computer Lab in 462+ No. of Schools	Non Recurring Per School @ Rs. 3.03 Lakh for 450 schools	1363.50
<b>Total Estimated Cost of All the Four (4) proposal(s)</b>			<b>3627.82</b>

**Fund Management:**

Expenditure would be made from the funds available by RCScE/ Education Dept.

**The Committee accords technical approval on the above mentioned 4 project proposal(s) having collectively estimated cost of Rs. Rs. 3627.82 Lakh; subject to the availability and approval of funds from Finance Dept.**

**6. Project : Procurement of end user computing h/w for Commercial Taxes Dept.**

The Committee was briefed about the project proposal of Commercial Taxes Department (CTD). The Dept. is dealing in the tax administration of the state viz. GST, VAT and Electricity Duty. Most of the activity related to the tax administration is online and time bound. To execute these tasks sufficient number of the end user computing hardware is required.

CTD has been provided following h/w to the end users in the previous seven (7) years-

S. No	Year	Desktop/ AIO	Printer	UPS	MFP	Scanner	Laptop
1	2015	220	61	130	145	-	20
2	2017	700	700	700	-	200	-
<b>Total</b>		<b>920</b>	<b>761</b>	<b>830</b>	<b>145</b>	<b>200</b>	<b>20</b>

In the year 2017, in view of the inception of GST, requirement of 1000 Desktop/ AIO, Printer and UPS were envisaged and it was proposed to procure this hardware in two phases of 700 and 300 each. The approval of this procurement was given in the 64<sup>th</sup>



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meeting of the SeMT for Rs. 964.00 Lakh. The Finance (EAD) Dept. provided Phase -1<sup>st</sup> hardware in the year 2017 to the Department under SPFM project funded by Word Bank. Total cost of this Phase-1<sup>st</sup> hardware was Rs. 514.00 Lakh. The rest 300 sets of Phase-2<sup>nd</sup> hardware is not provided to CTD by Finance (EAD) Dept.

Now, end user computing h/w available with the CTD is quite old and also insufficient in quantity to meet out the requirement. Meanwhile, recently re-structuring of the CTD was also taken place where many new offices were created. Therefore, to meet-out initial requirement of the end users, an urgent requirement of 450 No. of Computer sets is envisaged and AS & FS for the same has also been obtained from Finance Dept. for Rupees 450.00 Lakh.

In Accordance to the Letter No. 659 dated 29-12-2021 submitted by Commissioner, CTD to Principal Secretary IT&C, Detailed revised requirement of ICT item(s) and its estimated financial implication is as mentioned below:

<b>S. No.</b>	<b>Item</b>	<b>Qty. (Nos.)</b>	<b>Rate per Item (in Rs.)</b>	<b>Estimated cost (Rs. in Lakh)</b>
1	Desktop Computer	450	70,000	315.00
2	MFP (Laser)	250	25,000	62.50
3	MFP (Ink Tank)	200	25,000	50.00
4	UPS	450	5,000	22.50
<b>Total Cost</b>				<b>450.00</b>

Technical Specifications for above items are at **Annexure-G**.

#### **Financial Implication:**

Estimated cost of the project proposal is Rs. 450.00 Lakh.

#### **Fund Management:**

Expenditure would be met from the funds available with Commercial Taxes Dept.

*Keeping in view of the fact of urgency of work, technical approval has already been accorded by Principal Secretary, IT&C as being the chairman of SeMT.*

**The Committee accords ex-post-facto technical approval on the proposal having estimated cost of Rs. 450.00 Lakh.**

#### **7. Project : IT-Manpower (PMU) for three (3) years duration under RajFAB Project for Factories & Boilers Inspection Dept. (F&BI Dept.)**

The Committee was briefed about the proposal. The Dept. is aiming to a paperless, cashless and person less system with new changes as per the new law i.e., the Occupation Safety, Health and Working Conditions Code, 2020 notified by the Government of India. To achieve these goals, Dept. need a robust and technically sound online system.

RajFAB Project requires two (2) Sr. developers and one (1) developer dedicated to develop software and to support the system for three (3) years to restructure and redevelop the existing modules, to integrate services from GoR and mobile app and to create new module so that the department can continue to achieve its goal toward paperless, cashless and person less and user-friendly online system.

Project Stakeholders:

- Dept. of IT&C/ RISL, GoR
- Factories and Boilers Inspection Dept., GoR

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- Workers and Health personal/ third party
- Factories/ Boilers in State

**Detailed requirement of IT Man Power and its estimated financial implication for 3 financial years i.e. 2022-23, 2023-24 and 2024-25 submitted by F&BI Dept. (estimated by RISL) is as mentioned below:**

		(Amount in Rs.)	
S. No.	Description	Total Cost excl. GST	Total Cost incl. GST @ 18%
1	Total Cost for RajFAB application FMS for 3 years	17321881	20439820.00
2	RISL Service Charges @8%		1635185.60
3	GST on RISL Service charges @18%		294333.40
<b>Total Project Cost (Rs.)</b>			<b>2,23,69,339.00</b>
		<b>Say Rs.</b>	<b>223.69 Lakh</b>

**Financial Implication:**

Estimated project cost for setting up of Project Monitoring Unit (PMU) for three (3) years (i.e. 2022-23, 2023-24 and 2024-25) **through RISL** is Rs. 223.69 Lakh.

**Fund Management:**

Expenditure would be met from the funds available with Factories & Boilers Inspection Dept., Rajasthan, Jaipur.

**The Committee accords technical approval on the proposal having estimated cost of Rs. 223.69 Lakh; subject to the availability and approval of funds from Finance Department.**

**8. Project : Revised Project Proposal of "Employment Exchange Management System (EEMS)"**

The Committee was briefed about the proposal. EEMS Project has been started from 02-01-2012. In the 29<sup>th</sup> SeMT meeting held on 21-05-2012; basically, technical approval was accorded for EEMS project along with estimated cost of the project as Rs. 9.53 Crore.

Administrative and Financial approval of Rs. 9.39 Crore for the entire project was granted by Apex Committee meeting dated 20-06-2012. The Administrative and Financial Sanction of DoIT&C for Rs. 9.39 Crore was issued on 04-07-2012 and 14-07-2012 respectively. MoU was signed between RISL and Dept. of Employment on 17-09-2012.

Due to revision in the original SoW of the project, project cost was also reduced as Rs. 24.09 Lakh. Therefore, Revised Administrative and Financial Sanction (AS & FS) was issued on 07-07-2015 for a sum of Rs. 24.09 Lakh.

Due to revision in the SoW, Project cost was increased from Rs. 24.09 Lakh to 91.00 Lakh and the revised project cost for EEMS project was approved during 80<sup>th</sup> Meeting of SeMT held on 10-09-2020. Therefore, Revised AS for Rs. 115.00 Lakh was issued on 08-09-2020 and FS for Rs. 91.00 Lakh issued on 15-09-2020.

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Employment Exchange Management System (EEMS) application being used in Employment Dept. was developed by RISL for disbursement of unemployment allowance under "Mukyamantri Yuva Sambal Yojana" Scheme of GoR. The FMS support services were being provided with 5 manpower up to 16-03-2021 from RISL.

In continuation of Budget announcement, GoR has announced "Mukyamantri Yuva Sambal Yojana-2021" which is due to be rolled out from 01-01-2022. GoR has included this scheme as its flagship project. Due to this new scheme, there are several fundamental changes in the application which are not feasible in the existing EEMS portal.

The contract of manpower has already expired 16-03-2021. After communication with the Employment Dept., RISL has prepared a Statement of Estimate Expenditure (SoEE) for the Redesign, Revamp and FMS support for EEMS portal as mentioned below:

(Amount in Rs.)

S. No.	Resource Category	No. of resources	Man Month Rate (incl. all taxes/levies & 18% GST)	Total Amount for 1 Month (C*D)	Total Amount for 12 Months (E*12)
A	B	C	D	E=(C*D)	F
1	Senior DevOps	1	1,29,800	1,29,800	15,57,600
2	DevOps	3	1,06,200	3,18,600	38,23,200
3	Helpdesk Resource	1	35,400	35,400	4,24,800
<b>Total</b>					<b>58,05,600</b>
4	Mobile Application Development			8,26,000.00	8,26,000
5	Contingency Charges			1,32,632.00	1,32,632
6	Consulting Services Charges			6,63,160.00	6,63,160
<b>Total</b>					<b>16,21,792</b>
<b>CGST, SGST and RISL services charges</b>					<b>8,76,432</b>
<b>Grand Total 58,05,600.00 + 16,21,792.00 + 8,76,432.00</b>					<b>83,03,824</b>

**Duration based requirement of funds is as mentioned below:**

(Amount in Rs.)

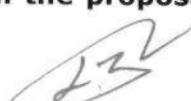
S.No.	Financial Year	Fund required
1.	2021-2022 (1 Qtr.)	2075956
2.	2022-2023 (3 Qtr.)	6227868
	<b>Total</b>	<b>8303824</b>

Therefore, in view of above revised administration sanction has already been issued on 20-12-2021 for (Rs. 115.00 Lakh + Rs. 83.04 lakh = Rs. 198.04 Lakh) Say Rs. 198.00 Lakh.

**Fund Management:**

Expenditure would be met from the funds available under "Backend & New Projects" Budget Head of Dept. of IT&C.

**The Committee accord revised technical approval on the proposal having revised estimated cost of Rs. 198.00 Lakh.**



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The Committee was briefed about the e-Mitra Project proposal. The e-Mitra is an ambitious e-Governance project of the State Government for providing e-platform to provide Government Information and Services to Rural and Urban masses through a system of centers & kiosks.

Services are being delivered through e-Mitra Application utilizing the e-Mitra kiosk network spread across the state. Earlier, the development of e-Mitra application was outsourced to M/s MindTree Ltd in 2007-08, where the focus was majorly to deliver services like collection of utility bill payment (electricity/ water bills).

As the project began to grow, services were continuously being added to the service basket, third-party applications like CSC SPV, ICICI Prudential, RSRTC, e-GRAS, etc. and Payment Gateways of various banks like SBBJ, ICICI Bank, Axis Bank, Bill Desk Payment Gateway Aggregator were integrated with eMitra application in patches by various companies including M/s UTIITSL, M/s Mind Tree Ltd, M/s Wipro Ltd.

With continuous adding on of services and expanding of the project there was an urgent need for a next generation IT platform for enhanced service delivery, that had the potential to be a game changer in the overall implementation of e-Governance across the country.

There were multiple issues and requirement that needed immediate attention from the perspective of a proper service delivery mechanism for the state:

- Connectivity in rural areas is a primary issue which needs to be catered. This may be done through offline forms and thin applications.
- Multimodal interface for service delivery and ease of operations is the need of the hour for service delivery.
- Automated and end to end process management along with automated workflow shall build the baseline for new service delivery architecture.
- Gateway linkages, ensuring one common frontend for multiple backend applications, integrated through a centralized gateway mechanism ensuring quality and technical advanced integration with backend workflow applications.
- Automation of Accounting, Reconciliation & Fund Transfer through online fund transfer ensuring timely payment of commission charges
- Concurrency, scalability to handle voluminous transactions
- M/s Wipro Limited, the Technology Partner was responsible for development of e-Mitra software solution and is presently providing O&M support which is ending on 31st July 2022
- Domain knowledge is key for e-Mitra project and knowledge transfer may take time. It is important that M/s Wipro shall hold technical knowledge transfer sessions with designated technical team of RISL in the last 6 months of the project duration, so that RISL can continue with the e-Mitra Software Solution even after Selected Bidder exits the project (31st July 2022).
- In the recent years, e-Mitra project has grown significantly in terms of number of services, number of stakeholders, technical complexity etc. Development is an ongoing activity in e-Mitra portal with recent initiatives like paperless service delivery through metadata integration, doorstep delivery (e-Mitra@Home) etc.

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- Various mission mode initiatives of State Government such as Jan Aadhaar, Mukyamantri Chiranjeevi Swasthya Bima Yojana & many others are rolled out till the last mile in the State through this e-Mitra kiosk network.
- During COVID-19 pandemic e-Mitra platform has been instrumental in extending the critical services like Covid-19 Migrant Registration Service, Non NFSA Food Survey etc. to the common man.

In view of above, GoR intends to redesign & rebuild its e-Mitra platform architecture to accommodate the challenges being faced to provide fast delivery of government services in transparent and seamless manner. In this direction, Dept. of IT&C/ RISL proposes to seek application development and maintenance services for five (5) years from the leading service providers, having relevant experience.

**The scope of work broadly covers:**

- Redesign & Revamping of existing eMitra application and converting it into eMitra Suite consisting of following additional (but not limited to) components:
  - eMitra reporting platform
  - eMitra portal
  - eMitra mobile application(s)
  - Analytics and Dashboard platform
- Development of new services as per requirement
- Integration with third party applications
- Operations & Maintenance (O&M) for existing eMitra application and proposed eMitra Suite

For this, it is proposed that RFP may be floated through RISL for selection of Technology service provider through an open bid procedure for (a) O&M of existing eMitra application for 1 year and (b) Redesign, Revamping, Development, Operation and Maintenance of the eMitra suite (Web/ Mobile, DR, Reports) for a period of 5 years.

**Financial Implication:**

(Amount in Rs.)

S. No.	Description of Work/Items	Quantity	Unit	Total Cost (inclusive of GST)
1	Redesign & revamp of eMitra suite and O&M of existing eMitra application	1	Nos.	4,13,18,880
2	Operations & Maintenance (O&M) Cost of eMitra suite for 5 years after go-live	5	Years	22,64,75,040
3	Contingency cost @ 5%	1	Nos.	1,33,89,696
<b>Total</b>				<b>28,11,83,616</b>

**Fund Management:**

Expenditure would be met from the RISL's income of e-Mitra Project.

**The Committee accords technical approval on the proposal having estimated cost of Rs. Rs. 2811.84 Lakh (inclusive of GST).**



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**10. Project : "Design, Development, Implementation and Maintenance of Integrated E-Governance Solution 2.0 for Rajasthan State Pollution Control Board (RSPCB) covering end to end business processes under various Acts and Rules"; by Rajasthan State Pollution Control Board (Dept. of Environment & Climate Change)**

The Rajasthan State Pollution Control Board is a body corporate constituted under section 4 of the Water (Prevention and Control of Pollution) Act, 1974. It was constituted on 7th February 1975. Later, it was also entrusted with the responsibility of prevention, control and abatement of Air Pollution under the provisions of Air (Prevention and Control of Pollution) Act, 1981. Enactment of the Environment (Protection) Act, 1986 has further widened the scope of the activities of the Board.

In the process of implementation of the provisions of said Acts & Rules, State Board issues Consents, Authorization and Registration to different stakeholders' viz. Industry/ Mines/ Health Care Facilities/ Projects/ Processes and Activities.

The State Board initiated the development of IT Based Solutions for delivery of services to its stakeholders in year 2007, afterwards RSPCBMIS was deployed in year 2010. This MIS facility was developed by several organizations i.e. RISL & NIC.

Over the years the existing system has developed limitations owing to promulgation of new rules and extensive redraw of existing rules under EPA, 1986 in year 2016 and existing processes of MIS are on old technology and needs to be upgraded with current technology for providing better services to the Stakeholder. Besides, the State Board is facing challenges of redundancies, inaccuracies and inconsistencies in data retrieval, monitoring and review.

Hence, to overcome these limitations and to enable the RSPCB to meet the emerging technical challenges to deliver IT enabled services to respective beneficiaries and facilitates the decision makers in effective policy planning, decision making and monitoring of various streams of the organization, the State Board intends to deploy an Integrated E-Governance Solution and initiate a Software Development project.

#### **Detailed Scope of Work:**

##### **(A) Study, Understanding & O & M of existing RSPCB MIS-**

This shall include the study of the entire knowledge base, application (Web, other utilities and integrations etc.), infrastructure, and services under existing RSPCB Solution which shall include the following (including but not limited to):

- i. Study of the functional specification documents
- ii. Study of the existing Business Procedures and Work Flow (online / offline)
- iii. Identification and deep dive into all available documents Prepare Detail System Requirement document and System design document.
- iv. Details of integration with other systems.
- v. Details and access to the codes, scripts, jobs, etc. for study and assisting in understanding the documentation of existing RSPCB Solution
- vi. Understanding of various environments (development, UAT, Production etc.), and

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obtain training on all the existing tools used, processes followed, and activities performed.

- vii. Understanding of all existing issues in RSPCB's IT landscape and their impact.
- viii. Operation & Maintenance of existing MIS facility of the State Board till execution of the proposed project

**(B) Application Development-**

With the increase in acceptability of the system by its stakeholders, there is also an increase in demand of quality of services. There are a few challenges / limitations in the current system that needs to be addressed to significantly improve the quality of delivery of services to the stakeholders and Departmental users. It is expected that the dynamic nature of requirements and operations will continue, and the selected bidder has to implement the solution that is flexible and configurable to meet such requirements. The application should be designed to handle these changes with a quick turnaround from the time of communication of RSPCB's decision to the implementation in production. System should be designed to provide enhanced experience and value to the end-users through complete integration. The RSPCB E-Governance Solution 2.0 should Support Unicode system.

Modules covered under RSPCB E-Governance Application-

Group 1	A) Consent Management B) PP/Unit Information System
Group 2	A) Waste Management B) Authorisation C) Registration
Group 3	A) Pre Screening B) Application Process
Group 4	Inspection and Monitoring
Group 5	A) Laboratory Management B) Monitoring Process
Group 6	A) Financial Accounting and Budget B) Store Inventory C) Asset D) Purchase Process
Group 7	Report Generation
Group 8	MISCELLANEOUS  A) User Management B) Web Portal C) Web Admin D) E-File Management E) File Tracking System (FTS) F) DAK Management G) Environmental Compensation H) Bank Guarantee I) Dashboard J) IT related Issue management module K) Grievance Mechanism (Complaint) Integration with Raj Sampark L) Integration with RTI



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	M) Legal Integration with LITES N) Employee Management Integration with RAJ KAAJ or any advance platform. O) Petcoke management
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**(C) Integration-**

The RSPCB E-Governance Solution 2.0 shall be integrated with other standard e-governance applications/platforms of various Central Government, State Government, Semi-Government Depts./ PSUs/ Autonomous Bodies/ Private/ Other Stakeholders for existing portals and portals established by any of these within 5 years i.e. GO Live + 4 years duration.

**(D) Data Migration-**

- Migrate data from existing database and application to new application and databases
- The migration of existing data shall be completed before Go Live of RSPCB E-Governance Solution 2.0 and Web Portal Modules for verification of entered data by the RSPCB.

**(E) Helpdesk Support Services-**

The project shall include setting up of a helpdesk management system for Helpdesk call management and SLA reporting. The helpdesk shall be manned by four (4) executives of the Developer for a period of minimum 12 months followed by two (2) executives for remaining period of 4 years.

The RSPCB will provide a dedicated telephone line and seating space for the Helpdesk.

Help desk should be able to perform:

- ✓ Handle software issues of the departmental users and citizens.
- ✓ The Helpdesk persons should be accessible to all the project locations and their end-users on telephone/ e-mail.
- ✓ Time bound Reply to the queries/ feedback/ suggestions/ complaints from all the stakeholders.

**(F) Training**

Training of staff is essential for ensuring that the software developed is actually put to use. Hence, the project also includes hands-on training to the designated end-users of RSPCB on the Web portal and Web application so as to make them well conversant with the functionalities, features and processes built in the RSPCB E-Governance Solution 2.0.

Training shall be conducted at RSPCB Head Office in Jaipur and may have multiple sessions as per the need and requirement of the project/ application. The project also includes development of training videos/tutorials, user manuals and FAQs in Hindi and English for training purpose.

**(G) User Acceptance Testing (UAT)**

User Acceptance consists of formal testing conducted by the end user group according to the acceptance test plan and analysis of the test results to determine whether the system satisfies its acceptance criteria.

A detailed demonstration of different module-wise functionalities of developed RSPCB E-Governance Solution 2.0 to RSPCB officials after deploying the RSPCB E-Governance Solution 2.0 at RSDC staging servers. RSPCB shall conduct functional

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testing of RSPCB E-Governance Solution 2.0 once the Beta version of the application is deployed at RSDC.

**(H) Performance Testing**

Performance/ Load testing of the application shall be carried out using meter tool/or other widely used tools for minimum of 1000 concurrent users at a time.

**(I) Security Audit / Safe to Host Certification**

The Safe to Host Certification shall be obtained for RSPCB E-Governance Solution 2.0 (including all the pages) from the empanelled vendors.

**(J) Product enhancement and change request, new module development and maintenance of application:**

The Application maintenance phase would start after GO-Live of RSPCB E-Governance Solution 2.0 and it would be for a period of 4 years after the go-live date and will include the following

- a. New Module Development for Product enhancement
- b. Change Request Management
- c. Maintenance of RSPCB E-Governance Solution 2.0

**(K) IT-infrastructure at RSDC**

The State Board shall need to take servers on lease at RSDC.

- a. Application Servers
- b. Data Base Servers

**RSPCB will hire the services of selected bidder/ firm for:-**

- (i) Design, development, implementation of integrated e-Governance solution 2.0 and Maintenance of existing RSPCB-MIS Application.
- (ii) Product enhancement change request and maintenance services for five years.
- (iii) Total cost proposed for above said task is Rs. 25.00 Crore.

**Duration of the Project:**

The overall project shall be executed in a period of 5 years which includes the development phase for 1<sup>st</sup> year and Product enhancement maintenance of application for a period of 4 year post GOlive.

**Financial Implication:**

The estimated cost of the project over a period of 5 years is Rs. 25.00 Crore i.e. Twenty Five Crore only (including GST@18%).

**Fund Management:**

The State Board shall bear all the expenses of the project. This project entails no financial liability on the State Government, as the State Board is self-sufficient and manages its activity through its own financial resources.

**The Committee accords technical approval on the proposal having estimated cost of Rs. 25.00 Crore; subject to the approval of Finance Dept.**

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**11. Project : Procurement of Computer Hardware and Allied Items ICT by College Education Dept.**

The Committee was briefed about the project proposal of College Education Department. The Dept. intends to IT-strengthen the basic ICT infrastructure currently available in the various offices of the organization.

The Proposal received for technical approval of SeMT has been considered as the Table Agenda of the meeting.

The requirement of the ICT items of the Dept. is as follows:

S.No.	Item Description	(Nos.)	Quantity
1	Laptop		10
2	I Mac Desktop		02
3	Desktop PC		79
4	Multifunction Laser Printer		30
5	Laser Printer (Black & White)		20
6	Printer (Color)		04
7	High Speed Scanner		02
8	Short Threw Projector		01
9	UPS		80
10	Photocopier Machine		02
11	Networking		-
12	Stationary etc. (Pen Drives, 1 TB HDDs, 2 TB HDDs, Anti-Virus Software for Existing Systems, Cartridges for Existing Printers etc.)		-

Technical Specifications for above items are at **Annexure-H**.

**Financial Implication:**

The estimated cost of the project is around Rs. 100.00 Lakh.

**Fund Management:**

Expenditure would be met from the funds available with College Education Dept.

**The Committee accords technical approval on the proposal having estimated cost of Rs. 100.00 Lakh.**

**12. Project : Proposal of "(i) Digitization of around 2 Crore historical records, and (ii) Development of an application s/w of Rajasthani/ Marwari language for translation of ancient manuscripts/ records available in Rajasthan State Archive Directorate (RSDA) along-with development of an App for learning Rajasthani/ Marwari language" by Art, Literature, Culture & Archeology Dept. (ALC&AD)**

The Committee was briefed about the proposal. In compliance to the Budget Announcement No. 173 (2020-21) and 151 (2019-20); Art, Literature, Culture & Archeology Dept. (**ALC&AD**) intends to digitize the historical records through an Agency, and requested to appoint an Agency by Dept. of IT&C for execution of the work.

As well as well as, **ALC&AD** also intends to hire the services of C-DAC, Pune for Development of an application software of Rajasthani/ Marwari language for translation of ancient manuscripts/ records available in Rajasthan State Archive Directorate (RSDA) along-with development of an App for learning Rajasthani/ Marwari language.

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Rajasthan State Archive, Bikaner arranged a presentation through C-DAC (an Enterprise of GoI) about Rajasthani Software & learning App to Principal Secretary, IT&C along with Dept. of IT&C's officers on 10-12-2021.

**Financial Implication:**

Estimated cost for the execution of the proposal(s) is as mentioned below:

S.No.	Description	(Rs. in Lakh)
1	Digitization of approx. 2 Crore historical records available in Rajasthan State Archives, Bikaner including Jaipur, Bharatpur, Udaipur, Ajmer, Kota and Alwar offices.	1000.00
2	Development of an application software of Rajasthani/ Marwari language for translation of ancient manuscripts/ records available in Rajasthan State Archive Directorate (RSDA) along-with development of an App for learning Rajasthani/ Marwari language	109.00
<b>Total</b>		<b>1109.00</b>

**Fund Management:**

Expenditure would be met from the funds available with Art, Literature, Culture & Archeology Dept. (ALC&AD).

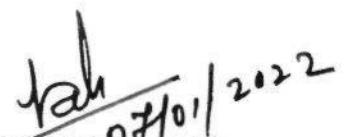
Committee directed ALC&AD to appoint RajCOMP Info Services Ltd. (RISL) as Agency for execution of the Digitization of historical records available in RSAD.

Committee also agreed in principal approval for the work of development of an application s/w of Rajasthani/ Marwari language for translation of ancient manuscripts/ records available in RSDA along-with development of an App for learning Rajasthani/ Marwari language through C-DAC; Dept. may go ahead with C-DAC complying the provisions of GF&AR and RTPP Act/ Rules.

**The Committee accords technical approval on the proposal(s) having estimated cost of Rs. 1109.00 Lakh.**

Meeting ended with a vote of thanks to the chair.

This bears the approval of competent authority.

  
 07/12/2022  
 (Sandesh Nayak)  
 Commissioner &  
 Joint Secretary, IT&C

**Copy for information and necessary action to:**

1. P.S. to Addl. Chief Secretary, School Education Dept., Rajasthan, Jaipur
2. P.S. to Addl. Chief Secretary, Public Health Engineering Dept., Raj., Jaipur
3. P.S. to Principal Secretary, Finance Department, Rajasthan, Jaipur
4. P.S. to Principal Secretary, Dept. of IT&C, Rajasthan, Jaipur
5. P.S. to Principal Secretary, Art, Literature, Culture & Archaeology Dept., Raj., Jaipur
6. P.S. to Secretary, Planning Dept., Rajasthan, Jaipur
7. P.S. to Secretary, Factory & Boiler Inspection Dept., Rajasthan, Jaipur
8. P.S. to Commissioner, Commercial Taxes Dept., Rajasthan, Jaipur
9. P.S. to Secretary, Social Justice & Empowerment Dept., Rajasthan, Jaipur
10. P.S. to Commissioner, College Education Dept., Jaipur
11. P.S. to Director, Social Justice & Empowerment Dept., Rajasthan, Jaipur
12. P.S. to Director (Technical), RajCOMP Info Services Limited, Jaipur
13. P.S. to Commissioner & Joint Secretary, Dept. of IT&C, Rajasthan, Jaipur
14. P.A. to Addl. Commissioner, Rajasthan Council of School Education (RCScE), Jaipur

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15. P.A. to Director, State Insurance & General Provident Fund (SI&PF) Dept., Jaipur
16. P.A. to Secretary, Environment & Climate Change Dept., Raj.
17. P.A. to Member Secretary, Rajasthan State Pollution Control Board, Jaipur
18. P.A. to Joint Secretary (Bima), Finance Department, Raj., Jaipur
19. P.A. to Joint Secretary (Expenditure-III), Finance Department, Raj., Jaipur
20. P.A. to Joint Secretary, Art, Literature, Culture & Archaeology Dept., Raj., Jaipur
21. P.A. to Technical Director & Joint Secretary, Dept. of IT&C, Jaipur
22. P.S. to DDG & SIO, NIC, Rajasthan, Jaipur
23. Chief Inspector, Factories & Boilers Inspection Dept., Rajasthan, Jaipur
24. Director, Water and Sanitation Support Organization (WSSO), Jaipur
25. Director, Rajasthan State Archive Directorate (RSDA), Bikaner
26. Director, Employment Dept., Darbar School Campus, Gopinath Marg, Jaipur
27. Smt. Poonam Choudhary, Chief Accounts Officer, Dept. of IT&C, Jaipur
28. Shri Amit Juyal, SEE, Rajasthan Pollution Control Board, Jaipur
29. Shri Yogmitra Dinkar, Addl. Director (Systems), SI&PF Dept., Jaipur
30. Shri Rajeev Gupta, Addl. Director (IT), Commercial Taxes Dept., Rajasthan, Jaipur
31. Shri R.K. Sharma, Addl. Director & OIC (e-Mitra), Dept. of IT&C, Jaipur
32. Shri Naveen Dutt Mathur, S.A. (Joint Director), SI&PF Dept., Jaipur
33. Shri Ashutosh Gautam, A.C.P. (Dy. Director), Employment Dept., Jaipur
34. Shri Umesh Chand Joshi, A.C.P. (Dy. Director), Dept. of IT&C, Jaipur
35. Shri Praveen Kumar, ACP (Dy. Dir.), Social Justice & Empowerment Dept., Jaipur
36. Smt. Nisha Soni, ACP (Dy. Dir.), Public Health Engineering Dept., Raj., Jaipur
37. Shri Banphool Agarwal, ACP (Dy. Dir.), College Education Dept., Rajasthan, Jaipur
38. Shri Deepak Moond, Dy. Dir. (ICT), Raj. Council of School Education (RCScE), Jaipur
39. Shri Subhas Chandra, Programmer, Factories & Boilers Inspection Dept., Raj., Jaipur
40. Director, LNMIIT, Jaipur
41. Guard File.



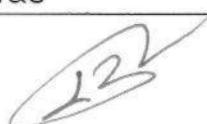
(Suneel Chhabra)  
Technical Director &  
Joint Secretary, IT&C

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Annexure-A"

89<sup>th</sup> Meeting of SeMT held on 30-12-2021 – through VC - List of Attendees

S. No.	Name of officer	Designation & Department
1.	Shri Alok Gupta	Principal Secretary, Dept. of IT&C
2.	Shri Bhanu Prakash Yeturu	Secretary, Factory & Boiler Inspection Dept.
3.	Shri Ravi Jain	Commissioner, Commercial Taxes Dept.
4.	Smt. Suchi Tyagi	Commissioner, College Education Dept.
5.	Shri O.P. Bunkar	Director & Jt. Secy., Social Justice & Empower. Dept.
6.	Shri Abhimanyu Kumar	Director (Technical), RajCOMP Info Service Ltd. (RISL)
7.	Shri Sandesh Nayak	Commissioner & Jt. Secy., Dept. of IT&C
8.	Dr. Bhanwar Lal	Addl. Commissioner, RCScE
9.	Shri Sharad Mehra	Director, State Insurance & Provident Fund Dept.
10.	Shri Pavan Kr. Upadhyay	Secretary, Environment & Climate Change Dept., Raj.
11.	Shri Anand Mohan	Member Secretary, Rajasthan Pollution Control Board
12.	Shri Ved Prakash Gupta	Joint Secretary (Insurance), Finance Dept.
13.	Shri H.K. Juneja	Joint Secretary (Exp. -III), Finance Dept.
14.	Shri Naresh Chandra Gupta	Senior Technical Director, NIC, Rajasthan
15.	Shri Mukesh Jain	Chief Insp., Factories and Boilers Inspectorate Dept.
16.	Sh. H.C. Verma	Director, Water And Sanitation Support Organization
17.	Sh. Mahesh Sharma	Director, Directorate of Employment
18.	Shri Vinesh Singhvi	OSD (Plan), Planning Dept., Secretariat
19.	Smt. Poonam Choudhary	Chief Accounts Officer, Dept. of IT&C
20.	Dr. Vijay Singhal	Chief Environmental Engineer, Raj. Pollution Control Board
21.	Shri Amit Juyal	SEE, Rajasthan Pollution Control Board
22.	Shri Yogmitra Dinkar	Addl. Director (Systems), SI&PF Dept.
23.	Shri Rajeev Gupta	Addl. Director (IT), Commercial Taxes Dept.
24.	Shri Sushil Parihar	Addl. Director, Dept. of IT&C
25.	Shri R.K. Sharma	Addl. Director & OIC (e-Mitra), Dept. Of IT&C
26.	Shri Ashutosh Gautam	A.C.P. (Dy. Director), Employment Dept.
27.	Shri Umesh Chand Joshi	A.C.P. (Dy. Director), Dept. of IT&C
28.	Shri Praveen Kumar	ACP (Dy. Dir.), Social Justice & Empowerment Dept.
29.	Shri Rajkumar Singh	A.C.P. (Dy. Director), Dept. of IT&C
30.	Shri Banphool Agarwal	A.C.P. (Dy. Director), College Education Dept.
31.	Shri Deepak Moond	Dy. Dir. (ICT), Rajasthan Council of School Education
32.	Shri Ravindra Gupta	GIC (IT), Rajasthan, Pollution Control Board
33.	Shri Arpit Sharma	Project Officer, SeMT, Dept. of IT&C
34.	Shri Nikhil Meena	Assistant Programmer, Dept. of IT&C





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**Annexure - "B"**

**Technical specifications suggested by Dept. of IT&C for Water & Sanitation Support Organization (WSSO) - PHED are as follows:**

**1. LED TV (49" Inch & above):**

<b>Item</b>	<b>Minimum Technical Specifications</b>
General	FHD/UHD colour display screen of minimum 49" (diagonal) with 1920x1080 OR higher professional display unit with required cables and connectors.
Fitting	The screen should be supplied with wall mount kit
Brightness	300 nit or better
Contrast Ratio	1000:1 or better
Viewing Angle (Horizontal/Vertical)	178 / 178° or better
Response Time (G-to-G)	10 ms or better
Display Color	16.7M
Input	RGB Analog D-SUB, DVI-D (Dual Link) Video Component, CVBS, HDMI Audio Stereo Mini Jack Connectivity
Output	Audio Stereo Mini Jack
External Control	RS232C (In / Out), RJ45
IO Ports	USB 2.0/3.0
Speaker	Should have in-built stereo speakers
Power	Power Supply: AC 100 - 240 V, 50/60 Hz Power Consumption: Sleep Mode: less than 1 W Off Mode: less than 1 W
Remote Control	Wireless remote control with each display unit
Certification	BIS Certification
Warranty	3 years comprehensive onsite from the Manufacturer

**2. Desk VC Solutions:**

<b>Item</b>	<b>Minimum mum Technical Specifications</b>
General	The system should be with Codec, HD 1080p camera with 10x optical zoom or higher, Mic, remote control/Touch Panel, required cables and power supply.
Video : Video Standards	H.263/H.264 and any other required standard/protocol or higher H.264 in an Encrypted call 1080p resolution when sending or receiving two live video sources e.g. Presenter and Presentation or better.
Video Frame Rate	Should provide 30 fps with 1080p resolution video encode and decode or better.
Video Output	Should have at least 2 No's of 1080p (HDMI/DVI) Video output. It should also support both Video and Content i.e. Dual Monitor Support. One HDMI/DVI to VGA convertor should be supplied for connecting projectors.  It should be capable to support minimum dual screen, one for content/self-view and one for remote site.  It should be able to do content sharing (PPT, MS WORD, PDF, EXCEL documents, multimedia files etc.) during the video conference.
Video Input	System should have capability to connect 1080p and 720p camera with full functionalities as mentioned in the camera specifications.



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	System should have HDMI/DVI input to connect PC/ Laptop directly to the Video conferencing system. HDMI/DVI and VGA cable (min. 3 meter each) should be supplied along with the codec. One HDMI/DVI to VGA convertor should be supplied.
Audio: Audio standards supported	G.711, G.722 or equivalent standard or higher must be supported.
Other Desirable features	Noise Reduction, Automatic Gain control, Acoustic Echo Canceller
Audio Inputs	Should support minimum 2 Microphones, one with min. 7.5-meter cord and other with 15-meter cord should be supplied with each endpoint. If 15 meter cable is not possible than microphone should support cascading (daisy-chain) to reach 15 meter.
	Noise and Echo Cancellation for every input must be available.
External devices	The unit should be supplied with Wireless Remote Control
Network Interfaces	1 x LAN /Ethernet--10/100/1000 Mbps full duplex Should support IPv4 and IPv6.
Presentation Sharing	It should be possible to share presentation through Laptop/PC
Network Capabilities	Should be capable of Packet Loss/bandwidth congestion based down speeding Auto Network Address Translation (NAT) support
Security: Menu Control	Password protected system menu
Encryption of video call	ITU-T standards based Encryption of the video call Call should be encrypted end-to-end on IP Should support AES Encryption
Camera	Minimum 10X optical zoom 1080 resolution @ 30fps or better The Camera, Mic, remote and codec should be supplied by the same OEM. Should have at least 70 degrees field of view (horizontal)
Directory services	Should support Local and Global directories Should support LDAP (Active directory) protocols for directory transfer

**3. 85 Inch & above LED professional display:**

Item	Minimum Technical Specifications
General	UHD Color display screen of minimum 85" (diagonal) with 3840x2160 professional display unit with required cables and connectors.
Fitting	The screen should be supplied with wall mount kit
Brightness	500 nit or better
Contrast Ratio	1000:1 or better
Viewing Angle (Horizontal/ Vertical)	178 / 178° or better
Response Time (G-to-G)	10 ms or better
Display Color	16.7M or better
Input	RGB Analog D-SUB, DVI-D (Dual Link) Video Component, CVBS, HDMI
Output	Audio Stereo Mini Jack Connectivity Audio Stereo Mini Jack

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<b>Item</b>	<b>Minimum Technical Specifications</b>
External Control	RS232C (In / Out), RJ45
IO Ports	USB 2.0/3.0
Speaker	Should have in-built stereo speakers
Power	<b>Power Supply:</b> AC 100 - 240 V, 50/60 Hz <b>Power Consumption:</b> Sleep Mode: less than 1 W Off Mode: less than 1 W
Remote Control	Wireless remote control with each display unit
Certification	BIS Certification
Warranty	3 years comprehensive onsite from the Manufacturer

**4. Laptop:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Processor	Intel Core i7/ AMD Ryzen 7, (10th Generation/equivalent AMD), Minimum 6 core, minimum 1.10 GHz base frequency or higher, cache 12 MB or higher
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Display	14" or higher diagonal +/- 5% HD Display
Memory (RAM)	16 GB DDR4 2666/2933 MHz or higher, Expandable up to 32 GB with 2 DIMM slot
Hard Drive	1 TB SATA Drive/ 512 GB SSD
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, 1 VGA/ HDMI, Headphone/ microphone combo/ separate
Network card	Integrated 10/100/1000 GB Ethernet LAN with 3 Mtr. CAT6 Patch Cord
Wireless Connectivity	Bluetooth 4.0 or above & integrated Wi-Fi 802.11 b/g/n
Graphics	2 GB GDDR5 Dedicated Graphic Card
Web Cam	HD Web Camera (Front facing)
Battery	Minimum 4 Hrs. Battery Backup
Power Adapter	Standard OEM power adapter
Antivirus	Preloaded Internet Security of Trend Micro/ Symantec/ Sophos/ Quick Heal/ Kaspersky
Office	Open Office updated version (freeware)
Keyboard	OEM standard keyboard with gesture support
Certification	BIS, ROHS Compliance, energy star, Certified for supplied OS
Accessories	Carry Bag
Warranty	3 years comprehensive on-site OEM warranty

**5. Desktop Computer:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Processor	Intel i5/ AMD Ryzen-5 (10 <sup>th</sup> Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Integrated Graphics Card
Memory (RAM)	16 GB DDR4 2666/ 2933 MHz or higher with minimum 2 DIMM Slots
Storage	1 TB 7200 RPM SATA Drive
Audio	Integrated audio controller with internal speaker

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<b>Item</b>	<b>Minimum Technical Specifications</b>
Office	Preloaded with MS Office Home/ Business latest version
Ports	Minimum 6 USB ports with at least 2 USB 3.0 or higher ports, 1- VGA, HDMI (Video ports should be function in spite of installation of graphic card if required), audio jack for headphone & microphone
Display	Minimum 21.5" inch or higher, Resolution 1920x1080 or higher Display, TCO Certified
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with minimum 3 years subscription
Certification	ROHS Compliance, energy star, Certified for supplied OS
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse with mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet, Integrated 802.11ac Wi-Fi and Bluetooth 4.2
Accessories	All necessary cables (Power & data cables), 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on-site OEM warranty

**6. Multi-function Printer:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Type of machine	Multifunction Machine
Printing method	Monochrome laser
Printing Technology	Laser (Black)
Printer Speed	20 ppm or higher
Input Tray Capacity	150 Pages or higher
Printer Resolution	600x600 dpi or higher
RAM Size/ Memory	256 MB
Connectivity	USB, Ethernet
Duty Cycle (Monthly)	8000 Pages
Auto Duplex Print	Yes
Functions	Print, Copy, Scan
Scanning feature	Yes
Scan Type/ Technology	Flatbed with ADF
Scan file format	PDF, JPEG, TIFF, BMP etc.
Media size supported	A4
Scan Speed	15 ppm or higher
Scan resolution	600x600 dpi or higher
Copy resolution	600x600 dpi or higher
Toner/ Cartridge	Laser Black toner cartridge pre-installed
Wi-Fi	Yes
Energy Star	Yes
Compatible Operating System	Window 7, 8, 10 (32/64 Bit, Linux- Mac OS)
Cables/ Accessories	All the required cables, Accessories.
Software media	Driver & utility Software CD/ DVD
Certifications	BIS and ISO for OEM
Warranty	3 years comprehensive on-site OEM warranty.

**7. Anti-Virus Software:**

1	Solution should have client server architecture with centralized administration/ console.
2	The solution must block file less attacks, exploitation behavior, ransomware using Machine Learning and Artificial Intelligence.
3	The solution must provide adequate protection against Malware including worms, Trojans, spyware, Bots, adware, rootkits etc.
4	Solution should have advanced machine learning capability for improved static detection of malware, thereby stopping large classes of malware.

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5	Solution should have website control: URL lookup and blocking of known malicious websites. Blocked sites should include those that may run JavaScript to perform crypto mining and sites that harvest user authentication credentials and other sensitive data.
6	Solution should have peripheral control: Ability to block devices/ control access privileges for access to peripherals and removable media viz. USB/Pen drives, CD/DVD etc.
7	Solution should have inbuilt protection against ransomware and anti-exploit capabilities. Able to perform new Zero days threat scanning offline (without internet)
8	Solution should have application control to block certain legitimate applications from running on work computers such as games or instant messaging programs.
9	Solution should have the capability to exclude certain files/folders/paths from monitoring procedures.
10	Should support cache server capability to avoid unnecessary bandwidth consumption for updates.
11	Solution should have the capability to prevent a user from tampering the endpoint.
12	The solution must identify and block privilege escalation attacks.
13	The solution must identify and block reconnaissance attacks
14	The solution must identify, and block credential theft attempts from either memory (credential dump, brute force) or network traffic (ARP spoofing, DNS Responder).
15	Solution should provide free upgrades, updates from the internet for a period of three years from installation date.
16	Should support Windows 10 client operating system.
17	Should have scheduled scanning and updates of signature
18	The solution must be next gen AV vendor and should be in the leader's quadrant of latest 2019 Gartner Report for Endpoint Protection Platforms.

**8. 1 KVA Interactive UPS System:**

<b>Item</b>	<b>Minimum Technical Specification</b>
UPS Capacity	1 KVA
Protection	Full Protection
User Display	Display for input & output Voltage and battery charging
voltage	230V +-10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries) (Brands Exide/ Quanta-Amron/ HBL/ YUasa/ Hitachi)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable of 1.5 Mtr with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault, Over Load, Low Battery
Certifications	BIS Certification for the quoted Model
Test report	OEM should submit test report for the quoted model issued by state/ central laboratory (not old from last 5 Years)
Warranty	3 years comprehensive OEM on-site warranty





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**Annexure-C**

**Technical specifications suggested by Dept. of IT&C for State Insurance & Provident Fund (SI&PF) Dept. are as follows:**

**1. Desktop Computer i5:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Processor	Intel i5/ AMD Ryzen-5 (10 <sup>th</sup> Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Integrated Graphics Card
Memory (RAM)	8 GB DDR4 2666/2933 MHz or higher with minimum 2 DIMM Slots, Expandable up to 32
Storage	1 TB 7200 RPM SATA Drive and/or 512 GB SSD
Optical drive	DVD R/W
Ports	Minimum 6 USB ports with at least 2 USB 3.0 or higher ports, 1-VGA, HDMI, audio jack for headphone & microphone
Display	Minimum 21.5" inch or higher, Resolution 1920x1080 or higher Display, TCO Certified
Office	Open office updated version (freeware)
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Certification	ROHS Compliance, energy star, Certified for supplied OS
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse With mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet
Accessories	All necessary cables (Power & data cables) , 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on site OEM warranty

**2. Laptop Computer:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Processor	Intel Core i5/AMD Ryzen 5, (11th Generation/ equivalent AMD), Minimum 4 core, minimum 1.60 GHz base frequency or higher, cache 6 MB or higher
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Display	14" or higher diagonal +/-5% FHD Display
Memory (RAM)	16 GB DDR4 2666/ 2933 MHz or higher, expandable up to 32 GB
Hard Drive	1 TB SATA Drive, and/or 256 GB SSD
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, 1 HDMI, Headphone/ microphone combo/ separate
Network card	Integrated 10/100/1000 GB Ethernet LAN
Wireless Connectivity	Bluetooth 4.0 or higher & integrated Wi-Fi 802.11 b/g/n
Graphics	Integrated HD Graphics
Web Cam	HD Web Camera (Front facing)
Battery	Minimum 3 Cell 40 Whr with minimum back up of 8 Hrs
Power Adapter	Standard OEM power adapter



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<b>Item</b>	<b>Minimum Technical Specification</b>
Antivirus	Preloaded Internet Security of Trend Micro/ Symantec/ Sophos/ Quick Heal/ Kaspersky with '3' Year Subscription
Keyboard	OEM standard keyboard with gesture support
Certification	BIS, ROHS Compliance, energy star, Certified for supplied OS
Information Accessibility	Product details, specifications and brochure to be available in public domain
Accessories	Carry Bag, 3 Mtr. CAT 6 Patch Cord
Warranty	3 years comprehensive on-site OEM warranty

**3. Scanner**

<b>Parameters</b>	<b>Minimum Technical Specifications</b>
ADF Capacity	50 Sheets
Scanning	Simplex/ Duplex
Scanning Resolution	Up to 2400*2400 dpi
Scan Speed	20 PPM or higher
Interface	USB 2.0
Sensor	Contact Image
Scan Format	PDF, PDF/A
Light Source	LED
Operating System Support	Windows/ Mac
Bundled Software Solutions	Industry standard interfaces for connecting software e.g. Windows ISIS/ TWAIN and Mac TWAIN drivers
Accessories	USB Cable , AC adaptor , Power Cable, Setup guide document, Installation software (Driver CD)
Certification	Energy Star, BIS and ISO for OEM
Warranty	3 years comprehensive on-site OEM warranty

**4. Printer Inkjet Monochrome:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Type	Ink Tank, Monochrome
Print Speed	20 PPM
Functions	Print
Duty Cycle (Monthly)	10000 Pages
Duplex Printing	Auto
Port	USB, Ethernet
Tray	Input Tray : Min 100 sheets Output Tray: Min 100 Sheets
Certification	BIS, ISO for OEM
Processor	500 MHz or higher
Memory	64 MB or higher
Operating System	Windows and Linux
Warranty	3 years comprehensive on-site OEM warranty

**5. Desktop Computer:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Processor	Intel i7/ AMD Ryzen-7 (10th Generation/ equivalent AMD) 8 Core, with minimum 2.9 GHz or higher (Base Frequency), 16 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Integrated Graphics Card



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<b>Item</b>	<b>Minimum Technical Specifications</b>
Memory (RAM)	16 GB DDR4 2666/2933 MHz or higher with minimum 2 DIMM Slots, Expandable up to 32
Storage	1 TB 7200 RPM SATA Drive
Optical drive	DVD R/W
Ports	Minimum 6 USB ports with at least 2 USB 3.0 ports, 1- VGA, HDMI, audio jack for headphone & microphone
Display	Minimum 21.5" inch or higher, Resolution 1920x1080 or higher Display, TCO Certified
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Office	Open office updated version (freeware)
Certification	BIS, ROHS Compliance, energy star, Certified for supplied OS
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse With mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet
Accessories	All necessary cables (Power & data cables) , 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on site OEM warranty

**6. MS Office**

License for 5 users of Office Home & Business 2021 edition (one time purchase).

**7. Printer Inkjet Color**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Functions	Print
Printing Method/ Technology	Color & Black both - Ink Tank/ Laser
Print Speed (Minimum)	20 PPM (Mono) & 15 PPM (Color) or Higher
Print Resolution	1200 x 1200 dpi or higher (Monochrome) 4800 x 1200 dpi or higher (Color)
Duplex	Yes
Memory	256 MB or higher
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Input paper tray capacity	100 pages or higher
Toner Cartridges/ Bottle	Pre install Black & Color Ink Bottle/ Cartridge
Functions	Print, Scan, Copy, Wireless
Copy Speed	10PPM or higher
Copy Resolution	600 * 600 dpi or higher
Scan File Format	PDF, JPEG, TIF/TIFF BMP etc.
Scan Resolution	600 * 600 dpi or higher
Yield	Minimum 5000 pages as yield
Compatible operating systems	Windows, Linux-Ubuntu
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility S/e CD/ DVD
Certifications	BIS, ISO for OEM
Warranty	3 years comprehensive on-site OEM warranty



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**Annexure - "D"**

**Technical specifications suggested by Dept. of IT&C for Social Justice & Empowerment Dept. (SJED) are as follows:**

**1. SMART TV 43 inch 4K Display/ TV/ Panel:**

<b>S.No.</b>	<b>Parameters</b>	<b>Minimum Technical Specification</b>
1	Size (Diagonal)	43"
2	Panel Technology	LED
3	Resolution (Minimum)	4K (3840 x 2160 )
4	Brightness	350 nits or better
5	Contrast Ratio (Typical)	1200:01 or higher
6	Viewing Angle (H x V)	178*178
7	Response Time	8 ms or less
8	Input (Minimum)	2 x HDMI, 2 x USB, 1 x Audio
9	Output (Minimum)	1 x HDMI, 1 x Audio
10	Wi-Fi Support	Wi-Fi ( 802.11 a/b/g/n/ac) Built-In Support
11	External Control	RS232C (1), RJ45 (1)
12	Speaker	Built-in Speaker (12 W+ 12W) or higher
13	Platform	Android 8.0 or higher OEM support
14	Certifications/Compliance for the quoted Item/ Model	BIS certification

**2. Desktop Computer:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Processor	Intel i3/ AMD Ryzen-3 (10 <sup>th</sup> Generation/ equivalent AMD) 4 Core, with minimum 3.0 GHz or higher (Base Frequency), 6 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Integrated Graphics Card
Memory (RAM)	8 GB DDR4 2666/2933 MHz or higher with minimum 2 DIMM Slots, Expandable up to 32 GB
Storage	1 TB 7200 RPM SATA Drive
Optical drive	DVD R/W
Ports	Minimum 6 USB ports with at least 2 USB 3.0 ports, 1- VGA/ HDMI, audio jack for headphone & microphone
Display	Minimum 19.0" inch or higher, Resolution 1920x1080 or higher Display, TCO Certified
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Certification	ROHS Compliance, energy star, Certified for supplied OS
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse With mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet
Accessories	All necessary cables (Power & data cables) , 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on site OEM warranty

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**3. Multi-Function Printer:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Functions	Print
Printing Method/ Technology	Color & Black both - Ink Tank/ Laser
Print Speed (Minimum)	20 PPM (Mono) & 15 PPM (Color) or Higher
Print Resolution	1200 x 1200 dpi or higher (Monochrome) 4800 x 1200 dpi or higher (Color)
Duplex	Yes
Memory	256 MB or higher
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Input paper tray capacity	100 pages or higher
Toner Cartridges/ Bottle	Pre install Black & Color Ink Bottle/ Cartridge
Functions	Print, Scan, Copy, Wireless
Copy Speed	10PPM or higher
Copy Resolution	600 * 600 dpi or higher
Scan File Format	PDF, JPEG, TIF/TIFF BMP etc.
Scan Resolution	600 * 600 dpi or higher
Yield	Minimum 5000 pages as yield
Compatible operating systems	Windows, Linux-Ubuntu
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility S/e CD/ DVD
Certifications	BIS, ISO for OEM
Warranty	3 years comprehensive on-site OEM warranty

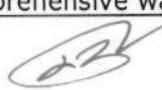
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**Annexure-“E (a)”**

**Technical specifications suggested by Dept. of IT&C for Establishment of Smart Classroom in 8766 No. of Schools by Rajasthan Council of School Education (RCSCE) are as follows:**

**1. Interactive Flat Panel Display (IFPD):**

<b>S.No.</b>	<b>Parameters</b>	<b>Minimum Technical Specifications</b>
1	Size (Diagonal)	75"
2	Panel Technology	IPS
3	Resolution (Minimum)	4 K (3840 x 2160 )
4	Brightness	350 nits or better
5	Contrast Ration (Typical)	1100:01 or higher
6	Viewing Angle (H x V)	178*178
7	Aspect Ratio	16:9
8	Response Time	8 ms or less
9	RAM	3 GB or higher
10	Onboard Memory	32GB or higher
11	Input (Minimum)	2 x HDMI, 4 x USB (Out of which min 2xUSB3.0), 1 x Audio, 1 x OPS slot
12	Output (Minimum)	1 x HDMI, 1 x Audio
13	Panel Life (Minimum)	30000 Hrs
14	Wi-Fi Supports	Wi-Fi ( 802.11 a/b/g/n/ac) Support
15	External Control	RS232C (1), RJ45 (1)
16	Speaker	Built-in Speaker (12 W+ 12W) or higher
17	Platform	Android 8.0 or higher
18	Detection Method	IR/IPV
19	Pen (Stylus)	2 nos. (Dual Pen Dual Colour) without chargeable
20	Operating System Support	Windows / Linux / Mac / Android
21	Multi Touch Point	Minimum 10 Points with +/- 1.5mm or better
22	Surface Hardness	Minimum 4 MM Toughened Glass with level 7 MOHS Standard
23	Software/ Interactivity Features	Smart Writing of different colors & annotation
24	Panel Features	Interactive flat panel with Light Sensor, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/PC
25	Certifications/ Compliance for the quoted Item/ Model	BIS, ROHS
26	User Convenience Features	Multi-Screen with PBP/PIP, Screen recording, min 2 split view, Intelligent hand writing recognition, etc.
27	Accessory	Remote Control (WB), Power Cable (IS), VGA Cable (1.5 M), HDMI Cable (3 M), User Manual, Wall Mount Kit with 8 no. Fasteners, Pen Drive -128 GB
28	Remote Management and other Software	Ability to manage & maintain all deployed IFPs connected over LAN/WAN, including the functionality of 1. Turn on/off the panel, 2. Change input/ volume, 3. Broadcast message to the panel, 4. Remote monitoring of the panel desktop 5. Infinite Canvas in white board & Screen Locking feature 6. Annotation facility on top of contents shown from external devices
29	Warranty	3 years onsite OEM comprehensive warranty





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**Annexure-“E (b)”**

**Technical specifications suggested by Dept. of IT&C for Establishment of ICT Computer Labs in 398 No. of Schools by Rajasthan Council of School Education (RCScE) are as follows:**

**1. Desktop Computer:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Make/ Brand	Branded Desktop (Should be in IDC Top 5 in India in last three years under Desktop category)
Processor	Intel Core i5 (10 <sup>th</sup> Generation) or higher/ AMD Ryzen 5 or higher with minimum 6 Core, 3.0 GHZ (Base Frequency), 6 MB Cache
Chipset	OEM Compatible Chipset
Graphic	Integrated HD Graphic
Memory	8 GB DDR4 RAM, 2666 MHz or Higher
Storage	1 TB 7200 SATA HDD
Display	OEM 19 inch (or higher) HD Color Monitor with 1600*900 or Higher resolution and internal speaker, ROHS compliance, TCO8 or higher
Keyboard-Mouse	OEM USB Keyboard (104 Keys) & OEM Optical Scroll Mouse with mouse pad.
I/O Port (Minimum)	6 USB Ports out of which min 2x3.0, VGA& HDMI Port, Audio Jack for Headphone & Mike, 1-Display Port/DVI
Network and Connectivity Features	10/100/1000 on board integrated network port. Integrated Wi-Fi and Bluetooth connectivity features.
Accessories	All necessary cables (power and data cables), Dust cover for CPU, Monitor & Keyboard etc.
Additional Accessories	High Definition Audio and external Speakers -2 Nos.
Operating System	Windows-10 Professional – 64 Bit Original (Academic Version)
Office Suit	MS Office Professional Academic (Pre-installed)
Preloaded (installed) Software (FOSS)	(1) VLC player latest version (2) Open office latest version (4) Free mind (5) GIMP (6) Pidgin (7) Turtle art (8) Hindi Fonts (9) GeoGebra (10) Adobe Acrobat Reader
Preloaded Content	Department will provide e-content of about 100 GB, same should be preloaded in to the Desktop.
Certification:	RoHS compliance, BEE/Energy Star (7.0 or higher) & Windows Certified
Warranty:	5 years comprehensive on-site warranty.

**2. Web Camera:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Device Type	Plug & Play Web Camera
Connectivity Technology	Wired
Resolution	Minimum optical 2 MP and Shall support 1080 video capture at 30 fps
Video	HD 720 P/30 FPS
Image Sensor	CMOS
Features	Clear and richer picture with 5G/>=60 degree wide angle Lens, brightness controller, digital zoom
OS Support	Windows, Mac and Linux
Video Input	Color

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Audio	Built-in mics with auto noise reduction
Interfaces	USB 2.0 and Above Connector
Cable Details	USB Cable min 1 Meter
Certification	ISO/ RoHS Compliance
Warranty	OEM MAF is required. 5 years comprehensive on-site warranty.

**3. Wi-Fi Router with SIM facility and Handset Phone:**

Item	Minimum Technical Specification
SIM card compatibility	4G/ 5G
Output	RJ 11
Internet Connectivity	Through DSL
Speed	250 Mbps
Connections Limit	15 Devices simultaneously
Warranty	5 Years comprehensive on sit warranty

**4. Wall Mount Thin Client:**

Item	Minimum Technical Specification
Make/ Brand	Branded Device (Should be in IDC Top 5 in India in last three years under thin client category)
Processor	Intel/AMD Quad Core Processor upto2.0 GHz or higher Processor with4 MB Cache
Graphic	HD Graphic
Memory (RAM)	4 GB DDR4 RAM, 2666 MHz or Higher
Storage	120 GB or Higher SSD
Display	OEM 19 inch(or higher) HD Color Monitor with 1600*900 or Higher resolution and internal speaker, ROHS compliance, TCO8 or higher
Keyboard-Mouse	OEM Brand USB Keyboard (104 Keys) &OEM Optical Scroll Mouse with mouse pad.
Accessories	All necessary cables (power and data cables), Dust cover for CPU, Monitor& Keyboard etc.
I/O Port (Minimum)	4 USB (min 2x3.0, 2 USB ports in the front) ports, 1 headphone (front), Microphone (front), Line in, line out, VGA, HDMI Port.
Network & Connectivity Features	10/100/1000 on board integrated network port. Integrated Wi-Fi
Features	Should be VDI certified (Citrix or VMware), Seamless working of YouTube, Local video play, video play from server. Capable to work on RDP protocol. Device should work as independent client/ system.
Operating System	Windows 10 Enterprise (Embedded)
Preloaded (installed) Software (FOSS)	(1) VLC player latest version (2) Open office latest version (4) Free mind (5) GIMP (6) Pidgin (7) Turtle art (8) Hindi Fonts (9) GeoGebra (10) Adobe Acrobat Reader
Thin Client Management System	Management software (OEM owned or should be of CMMI Level-3 Software Developer company) covering Remote Monitoring, Tree view structuring district wise schools, Compliance management, Security management etc. System should be able to monitor log(on/off) and activities of each connected device in the workgroup and enable/ disable Write protect, Option to Disable/Unable USB Ports, Sent/Broadcast Message/Screen, Dash Board with H/w/S/w information, Remote installation of application/Patches, change management, reports of each activity as mentioned in feature list etc.)
Certification	BIS (OEM Name & Model number should be mentioned in the certificate), RoHS Compliance, OEM MAF is required
Warranty	5 years comprehensive on-site warranty.



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**5. Multi-Function Printer:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Functions	Print, Scan, Copy
Printing Method	Mono
Print Speed (Minimum)	20 PPM (Mono)
Print Resolution	1200 x 1200 dpi or higher
Auto Duplex	Yes
Memory	256MB or higher
Connectivity	USB, Ethernet, Wi-Fi
Duty Cycle (Monthly)	5000 pages or higher
Copy Speed	10 PPM or higher
Copy Resolution	600 x 600 dpi or higher
Scan File Format	PDF, JPEG, TIFF BMP etc.
Scan Resolution	600 x 600 dpi or higher
Input paper tray capacity	100 pages or higher
Toner Cartridges/ Bottle	Pre install
Yield	Minimum 6000 pages as yield
Additional Toner Cartridge/ Bottle	OEM should supply 1 company packed additional Ink bottle/ Cartridge with 6000 pages yield each along with printer
Compatible operating Systems	Windows 7 , 8 , 10 and Linux- Ubuntu
Cables/ Accessories	All the required cables, accessories
Software Media	Driver & Utility software CD/DVD
Certifications	BIS, ROHS, OEM MAF is required.
Warranty	5 Years comprehensive onsite OEM warranty.

**6. Online UPS, 2000 VA with 1 hour backup**

<b>Parameter</b>	<b>Minimum Technical Specification</b>
Capacity	2 KVA Line Interactive
Input	Voltage
	Range
	Frequency
Output	50/60 Hz (+/- 10Hz) (Auto Sensing)
	Voltage
	Regulation
Battery	230 VAC (+/- 9%) (mains and battery mode)
	Automatic
	Frequency
	50/60 Hz (+/- 5%)
	Type
Battery	Maintenance-free Sealed Lead-Acid Battery with suspended electrolyte: Leak-proof; No Parallel Battery accepted. Battery must be inbuilt within UPS cabinet
	Backup
Protection	Minimum 60 minutes on full load with $\geq 85\%$ efficiency
	VAH
	<b>1600 VAH</b>
Transfer Time (Typical)	4 - 8 ms
	Make (preferably)
Surge Protection Device (Type)	Exide/ Panasonic/ Quanta/ Okaya/ HBL
	UL recognized SPD should be internal / external with Thermal Cutoff with indication. It should protect surges in Line-Neutral and Earth-Neutral
Compliance & Regulatory	BIS, ISO, RoHS
Warranty	3 Year Comprehensive Warranty including batteries

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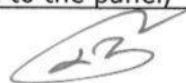
**Annexure-F (a) (i)**

**ICT items for Establishment of 2 Studio Rooms:**

<b>S. No.</b>	<b>Item</b>	<b>No. of Unit/ Set</b>
1	Interactive Flat Panel Display	2
2	Computer System	2
3	Display	2
4	UPS	2

**1. Interactive Flat Panel Display:**

<b>S.N.</b>	<b>Item</b>	<b>Minimum Technical Specifications</b>
1	Size (Diagonal)	75"
2	Panel Technology	IPS
3	Resolution (Minimum)	4 K (3840 x 2160 )
4	Brightness	350 nits or better
5	s	1100:01 or higher
6	Viewing Angle (H x V)	178*178
7	Response Time	8 ms or less
8	RAM	3 GB or higher
9	Onboard Memory	32GB or higher
10	Input (Minimum)	2 x HDMI, 4 x USB (Out of which min 2xUSB3.0), 1 x Audio, 1 x OPS slot
11	Output (Minimum)	1 x HDMI, 1 x Audio
12	OPS	Intel Core i5, 7th Gen or higher, 8 GB or higher RAM, 128 GB SSD, Windows 10
13	Panel Life (Minimum)	30000 Hrs.
14	Wi-Fi Supports	Wi-Fi ( 802.11 a/b/g/n/ac) Support
15	External Control	RS232C (1), RJ45 (1)
16	Speaker	Built-in Speaker (12 W+ 12W) or higher
17	Platform	Android 8.0 or higher
18	Detection Method	IR/IPV
19	Pen (Stylus)	2 nos. (Dual Pen Dual Color) without chargeable
20	Operating System Support	Windows / Linux / Mac / Android
21	Multi Touch Point	Minimum 10 Points with +/- 1.5mm or better
22	Surface Hardness	Minimum 4 MM Toughened Glass with level 7 MOHS Standard
23	Software/ Interactivity Features	Smart Writing of different colors & annotation
24	Panel Features	Interactive flat panel with Light Sensor, Connectivity via wireless Screen Cast, Wireless Screen Sharing from Mobile, Tablet, Laptop/ PC
25	Certifications/ Compliance for quoted Item/ Model	BIS, ROHS
26	User Convenience Features	Multi-Screen with PBP/PIP, Screen recording, min 2 split view, Intelligent hand writing recognition, etc.
27	Accessory	Remote Control (WB), Power Cable (IS), VGA Cable (1.5 M), HDMI Cable (3 M), User Manual, Wall Mount Kit with 8 no. Fasteners, Pen Drive -128 GB
28	Remote Management and other Software	Ability to manage & maintain all deployed IFPs connected over LAN/WAN, including the functionality of 1. Turn on/off the panel, 2. Change input/ volume, 3. Broadcast message to the panel,





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		4. Remote monitoring of the panel desktop 5. Infinite Canvas in white board & Screen Locking feature 6. Annotation facility on top of contents shown from external devices
29	Warranty	3 years onsite OEM comprehensive warranty

**2. Computer System:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Form Factor	Small Form Factor
Chipset	Intel Q470 Chipset
Processor	Intel® 10th Generation Core i5 10500 Processor with 3.1 GHz base frequency 12 MB cache, 6 cores, 12 threads
Memory	16 GB DDR4-2666 Memory or higher
SSD	1TB SSD or more
Graphic Card	NVIDIA GEFORCE RTX 3060 with 4GB or higher
Audio	Integrated audio controller with internal speaker of at least 2W
Networking	Integrated Intel Gigabit 10/100/1000 Ethernet Controller; Intel® Wi-Fi 6 AX201 802.11ax 2x2 with Bluetooth® M.2 Combo
Display	23.8" with Full HD Resolution (Same OEM as desktop)
OS	Microsoft Windows 10 Professional with OEM Recovery DVD or option of Cloud Recovery & MS Office 365 Subscription
Ports	2 x Display Port 1.4, HDMI 2.0, 2 x USB 2.0, 3 x USB 3.2 Gen 1, 4 x USB 3.2 Gen 2, 1 x USB Type C 3.2 Gen 2
Slots	1 x PCI Express v3.0 x16, 1 x PCI Express v3.0 x4, 2 x M.2, Integrated 5-in-1 SD card reader, 3 x SATA Ports
Bays	1 Internal, 1 External Bay
Keyboard-Mouse	Wireless Keyboard & Mouse (Same OEM as Desktop)
Certification	Microsoft Windows 10; BIS, RoHS, Energy Star 7.0 or higher
Warranty	3 Year Comprehensive Warranty
Authorization	OEM MAF is required

**3. Display:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Display Size	40 Inch or higher
Panel Type	LED
Resolution	Full HD (1920 x 1080)
Contrast Ratio (Typical)	5000:1
Brightness (Typical)	330 cd/m2 or higher
Haze	2% or better
I/O Ports	VGA, DVI-D, HDMI x 2, HDCP 2.2, USB 2.0, Stereo mini jack, RS232C through Stereo Jack, RJ45
Audio	Built-In 5W + 5W/ 10 Watt or more
Built-In OS	Android/ WebOS/ Tizen
Certificates	BIS, FCC, OHSAS/ ISO 45001
Accessories	Remote, Mount Kit
Warranty	3 Years Comprehensive on-site warranty

**4. UPS:**

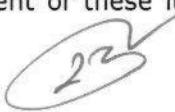
<b>Item</b>	<b>Minimum Technical Specifications</b>	
Capacity	2 KVA Line Interactive	
Input	Voltage	230 VAC
	Range	140-290

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	Frequency	50/60 Hz (+/- 10Hz) (Auto Sensing)
Output	Voltage	230 VAC (+/- 9%) (mains and battery mode)
	Regulation	<b>Automatic</b>
	Frequency	50/60 Hz (+/- 5%)
Battery	Type	Maintenance-free Sealed Lead-Acid Battery with suspended electrolyte: Leak-proof; No Parallel Battery accepted. Battery must be inbuilt within UPS cabinet
	Backup	Minimum 60 minutes on full load with >= 85% efficiency
	VAH	1600 VAH
	Transfer Time (Typical)	4 – 8 ms
	Make (preferable)	Exide/ Panasonic/ Quanta/ Okaya/ HBL/ Amron
Protection		Surge, Discharge, Overcharge and Overload protection
Surge Protection Device (Type)		UL recognized SPD should be internal / external with Thermal Cutoff with indication. It should protect surges in Line-Neutral and Earth-Neutral
Compliance & Regulatory		BIS, ISO, RoHS
Warranty		3 Year Comprehensive Warranty including batteries

Note: Video Camera, Capture Card, Wireless Mic, Broadcast Software, Air Conditioner, Electrical & Civil work are not considered as IT/ ITES items, therefore Dept. has to decide the procurement of these items at their own level complying the RTPP Act/ Rules.



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**Annexure- "F (a) (ii)"**

**Establishment of- 4 Video Conferencing (VC) set-up:**

<b>S. No.</b>	<b>Item Description</b>	<b>No. of Unit/ Set</b>
1	Display	4
2	Computer System for Video Conferencing	4
3	PTZ Camera	4
4	Speaker Microphone	4
5	UPS	4
6	Accessories	As per site requirement

**1. Display:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Display Size	55 Inch
Panel Type	LED
Resolution	Full HD (1920 x 1080)
Contrast Ratio (Typical)	5000:1
Brightness (Typical)	330 cd/m2 or higher
I/O Ports	VGA, DVI-D, HDMI x 2, HDCP 2.2, USB 2.0, Stereo mini jack, RS232C through Stereo Jack, RJ45
Audio	Built-In 10W + 10W/ 20 Watt or more
Operation hours (Min.)	16/7 or better
Built-In OS	Android/ WebOS/ Tizen
Certificates	BIS, FCC, ROHS
Accessories	Remote, Mount Kit
Warranty	3 Years Comprehensive on-site warranty

**2. Computer System for Video Conferencing:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Parameter	Specification (Branded Desktop, Should be in top IDC 5, in India)
Form Factor	Small Form Factor
Chipset	OEM Compatible Chipset
Processor	Intel® 10th Generation Core i5 10500 Processor with 3.1 GHz base frequency 12 MB cache, 6 cores, 12 threads
Memory	8 GB DDR4-2666 Memory expandability up to 64 GB with 2 DIMM Slots
Hard Disk	1TB 7200RPM SATA
Graphic Card	Intel® UHD Graphics 630
Audio	Integrated audio controller with internal speaker of at least 2W
Networking	Integrated Intel Gigabit 10/100/1000 Ethernet Controller; Intel® Wi-Fi 6 AX201 802.11ax 2x2 with Bluetooth® M.2 Combo
Other Items	Wireless Keyboard & Mouse (Same OEM as Desktop)
Operating Software and Office Suit	Microsoft Windows 10 Professional with OEM Recovery DVD or option of Cloud Recovery & MS Office 365 Subscription
Ports	Video: 1 Display Port 1.4 ,1 HDMI 1.4, 1 VGA; USB:4 USB 2.0, 3 USB 3.2 Gen 1, 2 USB 3.2 Gen 2
Slots	1 PCI Express v3.0 x1, 1 PCI Express v3.0 x16, 2 M.2, Integrated 5-in-1 SD card reader, 3 SATA Ports
Bays	1 Internal, 2 External Bay
Certification	Microsoft Windows 10; BIS, RoHS, Energy Star 7.0 or higher
Accessories	Wall Mount Metal Cabinet to keep Computer, UPS & all other small accessories lock & key
Warranty	3 Years Comprehensive on-site warranty

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**3. PTZ Camera:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Full HD Pan Tilt Zoom USB camera, with 1080p30 Video Signal and Optical Zoom 12x	
Compatible Video Format	1080p30/25 720p30/25 1080p60 / 720p60
Sensor	1 / 2.8" CMOS 2.13 MP Sensor or better
Video signal	Compressed (H.264) on USB
Focal Length	f3.5mm - 42.3mm, F1.8 - F2.8
Optical Zoom	12x or better
Digital Zoom	16x or better
Pan Range	+/- 170°
Tilt Range	+/- 30°
Serial Control	Serial In - Out - USB
Ceiling Mount	Supported
Video configurations	White balance (auto/manual); Focus Mode (auto/ manual); Sharpness; Backlight; Exposure Compensation; Picture (auto/ manual) and WDR level
Voltage Range	DC 12V
Camera Output	USB 3.0
Microphone	Included, frequency response 50Hz - 8KHz, 3m radius omni (6m diameter), coverage 360°
Presets (Minimum)	80
Warranty	3 Years Comprehensive on-site Warranty

**4. Speaker Microphone:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Speaker	Frequency 80 - 14000 Hz, volume 95 dB SPL 0.5m
Microphones	3 digital MEMS microphones, pick-up range 6m/20ft
Technology	Omni Sound, full-duplex speech, beam forming microphones, noise cancellation, echo cancellation, comfort noise generation
Codecs	G.711, G.722, G.729, Opus, iLBC
Ethernet	1 x Ethernet 10/100/1000Mbps, PoE IEEE 802.3af/at with 802.3at recommended
USB	1 x USB 3.0 host Type-A, 1 x USB 3.0 device Micro-B
Bluetooth®	Bluetooth LE, Bluetooth Classic and NFC supported
Expansion	2 x audio expansion ports (RJ11)
Protocol	SIP 2.0 (RFC 3261 and associated RFCs)
Signaling	UDP, TCP, TLS, and SIPS
Media protocol	RTP, SRTP
Additional Features	PCAP-log, unique host name, LLDP
Display	4.3", 480x800, capacitive touch screen
Buttons	Two volume touch buttons, Three mute touch buttons
Status indication	Dual color LED (green/red) for off hook, mute, hold status
PoE	IEEE 802.3af/at (Class 4)
Wired smart expansion microphones	Local acoustic echo and noise cancellation, three digital MEMS microphones, pick-up range 6m/20 ft, cable length 3m / 10 ft
Anti-theft protection	Kensington® security slot
Accessories	One Unit Expansion Microphone with required accessories to connect with main unit (Expansion Microphone & Main Unit shall be of same OEM)
Warranty	3 Year Comprehensive warranty

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**5. UPS:**

<b>Item</b>		<b>Minimum Technical Specifications</b>
Capacity		1 KVA Line Interactive
Input	Voltage	230 VAC
	Range	140-290
	Frequency	50/60 Hz +/- 10Hz (Auto Sensing)
Output	Voltage	230 VAC +/- 9% (mains and battery mode)
	Regulation	Automatic
	Frequency	50/60 Hz +/- 5%
Battery	Type	Maintenance-free Sealed Lead-Acid Battery with suspended electrolyte: Leak-proof; No Parallel Battery accepted. Battery must be inbuilt within UPS cabinet
	Backup	Minimum 60 minutes on full load with >=85% efficiency
	VAH	1600 VAH
	Transfer Time (Typical)	4 - 8 ms
	Make (preferable)	Exide/ Panasonic/ Quanta/ Okaya/ HBL/ Amron
Protection		Surge, Discharge, Overcharge and Overload protection
Surge Protection Device (Type)		UL recognized SPD should be internal/ external with Thermal Cutoff with indication. It should protect surges in Line-Neutral and Earth-Neutral
Authorization		Tender specific MAF (document required with Technical Bid Submission)
Compliance & Regulatory		BIS, ISO, RoHS
Warranty		3 Years Comprehensive on-site warranty including batteries

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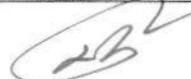
**Annexure-“F (b)”**

**Procurement of Tablet(s) for Digital Library Establishment in 700 No. of Schools:**

<b>S.No.</b>	<b>Items</b>	<b>Quantity</b>
1	Tablets Per School with 32 GB Micro SD Card, Headphone/Ear Phone and Back Cover	20

**1. Tablet:**

<b>S. No.</b>	<b>Item</b>	<b>Minimum Technical Specifications</b>
1	Display Size (Minimum) (Inch)	7 Inch or higher
2	Display Resolution (Pixels)	1024*600 or higher
3	Display Type	IPS/ TFT LCD or equivalent
4	Brightness (Nits)	350 or higher
5	Operating System	Android 10.0 or Higher
6	Connectivity Type	Wi-Fi
7	Wi-Fi Connectivity Type	802.11 b/g/n or higher
8	Bluetooth Connectivity	4.0 or higher
9	Processor	Quad Core, 1.5 GHz or Higher
10	RAM Size and type	2 GB LPDDR3 or higher
11	Internal Storage	32 GB or higher
12	Additional Storage with Tablet	Compatible Micro SD Card- 32 GB or higher with Class 10 Std
13	Storage upgradable up to (Through Micro SD Card)	64 GB or higher
14	Rear Camera	2 MP or higher
15	Front Camera	2 MP or higher
16	Battery Capacity (minimum)	3500 mAh or higher
17	Google Mobile Service Certification for Android OS	Required (Yes)
18	Certification	BIS, RoHS Compliance
19	Additional Accessories	USB Cable & Charger,
20	Headphone	Branded compatible Head phone / Ear phone, ISI marked
21	Tablet Cover	Compatible Smart cover for TAB, cover should have stand to hold the TAB
22	Warranty	One Year
23	Department Name and Logo	Should be print on backside of Tablet and Front side of Cover





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**Annexure-“F (c)”**

**Establishment of Robotics Lab in 201 No. of Schools:**

S. N.	Item	Minimum Technical Specifications	Qty.	Type
<b>Kits</b>				
1	Robot	Robust & Steady Robot. Shall be able to Walk & Dance. Should be Programmable and App Controlled with Inbuilt sensors like Ultrasonic (0.3 cm resolution, operating frequency 16Mhz, detection range 2-100 cm Operating voltage 5v, and operating current 15 mA) to detect obstacle. Should be servo motor based (5v-9v).	3	Hardware
2	Mechanical Construction Set	Should have Remote Control (Must be with DPDT Switches of 2 and 4 switch mode, Data Cable, Power Distribution Board, 60, 35 and 12 Teeth Spur Gear, Wheels attachable with Track Belts, Track Belts, Bolts, Pulley, Different size Gears, 150 RPM Motors , Plates, Nuts, Bolt and other equipment's.	5	Hardware
3	Electronic Circuits Kit	Electronic bricks with option to connect with each other, Modular, LDR, ED Buzzer, Ultrasonic, Color, Obstacle and IR sensor etc. Should also offer code able microcontroller through PC or Laptop.	5	Hardware
4	Solar DIY Kit	Solar based kit shall include 5v/800 mA solar panel and other electronic parts such as 5mm LEDs, 5v Buzzer etc to demonstrate conversion of solar energy to electrical energy. Students Shall be able to make their own solar mobile charger and solar lamps.	5	Hardware
5	Gears Set	Gear of different ratios	5	Hardware
6	DIY Circuits Kit	Circuit kit for students to make their desired circuits over breadboard with the help of electronic components such as 5mm LEDs, 1/4 watt resistors, capacitors (10uf, 104), transistors (547, 548), Ics (555 Timer) etc.	5	Consumable
7	Programming Kit	Programmable kit should have all motors and sensors with option to learn programming of different components. Should have Board with traffic light combination, switches, LDR, Pot. The kit should contain different type of boards like LCD, seven segment display board, minimum 2 IR Sensors, DTMF Board, L293 Board with open power points for giving power to other sensor and 12 v 1 a power adapter for power supply to chassis, motors and connectors.	5	Hardware

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8	Sensors Kit	Different types of sensors (Capacitive Touch Switch, Triple axis magnetometer, humidity sensor DHT 11, MQ 4, MQ3, MQ 7, MQ 2, MQ 135, Ultrasonic Sensor, Triple Axis Accelerometer, PIR Motion Sensor, Pulse Rate heart sensor, Soil moisture sensor, Metal touch sensor, rain drop sensor, temperature sensor, force pressure sensor, color recognition sensor, water flow sensor, IR Sensor array)	5	Consumable
9	Coding Kit Brain with Sensors	An all in one platform compatible to embedded system development, prototyping, Internet of Things - IoT, hardware programming with embedded C and easy to do connections using RJ 11 cables. A brain board with 8 Bit inbuilt microcontroller to connect with minimum 21 Digital I/O devices and 6 Analog I/O devices. The Kit should have inbuilt wireless enabled using 2.4 GHz wireless trans receiver and LCD.	5	Hardware
10	AI (Artificial Intelligence) Kit	An AI kit through which students be able to explore new possibilities in the field of Artificial Intelligence. The AI kit should consists of advance hardware & microprocessor with 64 Bit Quad core Architecture, 1GB Ram, Broadcom wireless communication with 1.2 GHz clock frequency, 26 I/O ports, 5v/2a battery/DC powered, High definition video processor with gles 2.0 with inbuilt memory to process images taken from a camera input and can perform functions such as color detection, face detection etc. Also shall be able to connect to display unit for programming interface where students will be able to do coding in Python. Students should be able to make projects like Face Mask Detection, Image Recognition etc.	1	Hardware
11	IoT & Home Automation Kit	This kit should offer opportunity to explore and innovate in the field of Cloud Computing and Internet. The Kit should have microcontroller based programming board having 32 bit/8266 Architecture, clock speed of 80 MHz, operating voltage 3.3 v, 11 Digital i/o ports, PWM pin, inbuilt Wi-Fi 802.11 b/g/n Kit Features: 1-DIY Home setup with (minimum setup with LED light, Refrigerator, Geyser) 2-OLED display system to monitor air quality and incoming messages	1	Hardware



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		3-Access to Adafruit and Blynk server to control home appliances 4-Battery powered 5-It includes 2-Ch Relay switches to control AC Appliances 6-It consists of Printed activity templates and stickers.		
12	3D Printer	Parameter (Min. Specifications) Extruder - Single extruder Plate - Removable plate Print technology - Fused Deposition manufacturing (FDM) Printing Material supported - PLA Layer resolution - 100 microns Print size metric in MM - 210 x 210 x 210 Print size imperial in MM - 8.26 x 8.26 x 8.26 Auto Calibration with Adjustable Screws- Yes Auto Loading with External Filament system- Yes Filament type - PLA	1	Hardware
13	3D Pens	Parameter (Min. Specifications) Material - ABS Plastic Compatible Material - Polylactic Acid, Acrylonitrile Butadiene Styrene Compatible Material - 1.75mm PLA Speed - Min 3 different adjustable speeds Display - Option for display the temperature and speed in the pen i.e. LCD display Accessories - 6 color PLA filament with at least 30 m, Pen Holder and adapter, 100 Drawing sheets	5	Consumable
14	Filament	Parameter (Min. Specifications) Material- PLA Color - White/Blue/Black/Red/Yellow	5	Consumable
15	Drone	It shall be a classic quad-copter kit which features styled professional left hand throttle. The advance speed switch suits everyone from beginner to experts. It shall come equipped with 6-axis gyro making it more stable. Also shall come with four propellers, Brushless Motors 60000 RPM, ESC 2S/5A, Rechargeable Battery 3.7v/300mAh. Flight time 15 minutes. 2.4 GHz Radio Trans-receiver.	1	Hardware
<b>Robotics Accessories</b>				
16	Water Pump Module	DC 12V 3W Submersible Water Pump	5	Hardware
17	Bluetooth	HC 05 working voltage 5V	5	Hardware
18	GSM	GSM	2	Hardware
19	GPS	GPS	2	Hardware
20	DC Motor	DC Motor 100 RPM	20	Hardware

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21	BO Motor	BO Motor 150 RPM	20	Hardware
22	Metal Robot Chassis	To connect DC Motors	5	Hardware
23	LDR Module	Photo Sensitive Light Sensor Module	30	Hardware
24	Keypad	Universal 16 Key Switch Keypad	10	Hardware
25	Joystick Module	Joystick Module for Arduino	5	Hardware
26	Node MCU	Wifi internet development board module node MCU	5	Hardware
27	Relay Module 2 Channel	5V 10A	5	Hardware
<b>Electronics Accessories</b>				
28	General Purpose Board	6"x4"	50	Consumable
29	Male Berg Strip	40 Pin	100	Consumable
30	Female Berg Strip	40 Pin	100	Consumable
31	Multi Resistor Box	Resistor Set - Multiple quantities each 1E, 2E2, 4E7, 10E, 22E, 33E, 68E, 100E, 150E, 10K, 22K, 33K, 47K, 68K, 100K, 220K, 330K, 1M, 220E, 330E, 470E, 560E, 680E, 1K, 2K2, 3K3, 4K7, 6K8	10	Consumable
32	Multi Capacitor Box	Capacitor Set - Multiple Quantities each 2PF, 10PF, 15PF, 22PF, 33PF, 47PF, 68PF, 82PF, 100PF, 220PF, 330PF, 470PF, 820PF, 1KPF, 1K5PF, 2K2PF, 3K3PF, 4K7PF, 10KPF, 104PF	10	Consumable
33	Mini Breadboard	Mini Breadboard	10	Hardware
34	Breadboard	Breadboard	10	Hardware
35	9 Volt Battery	9 Volt Battery	20	Consumable
36	Linear Voltage Regulator	7805 / 7812 / 7809	10	Hardware
37	Diode Kit	Different Values	10	Hardware
38	Transistor	Different Values	20	Hardware
39	Active Buzzer	5V	10	Consumable
40	LEDs (Red)	5mm, 3-5 volt	1000	Consumable
41	LEDs (Green)	5mm, 3-5 volt	1000	Consumable
42	LEDs (Blue)	5mm, 3-5 volt	1000	Consumable
43	LEDs (Yellow)	5mm, 3-5 volt	1000	Consumable
44	LEDs (White)	5mm, 3-5 volt	1000	Consumable
45	RGB LEDs	5mm, 3-5 volt	50	Consumable
46	Jumper Cable	MM/ MF / FF	1000	Hardware
47	Hookup Wires	Wires	4	Consumable
48	Push Button Switch	tactile switch micro	100	Hardware
49	555 Timer IC	555 IC	20	Hardware
50	Battery Clip with DC Jack	9 volt battery clips with DC Jack	20	Hardware
51	Battery Clips	9 volt battery clips	20	Hardware
52	Alligator Connectors	Multicolor alligator connectors	20	Hardware
53	Vibrating Motor	Vibrating Motor	10	Hardware
54	Terminal Connector	2 Pole	10	Hardware
55	DPDT Switches	DPDT Switches	10	Hardware



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56	On Off Switch	On Off Switch	10	Hardware
57	Relay 5V	Relay 5V	10	Hardware
58	L 293D IC	L 293D IC	10	Hardware
59	LM 358 IC	LM 358 IC	10	Hardware
60	IR Pair	IR Pair	20	Consumable
61	TSOP 1738	TSOP	10	Hardware
62	LDR	LDR	10	Hardware
63	Piezoelectric Plate	Piezoelectric Plate	5	Hardware
64	Laser Diode	Laser Diode	5	Hardware
65	Power Bank	Power Bank	2	Consumable
Tools & Hardware				
66	Hacksaw	150mm	1	Hardware
67	Extra Hacksaw Blades	Extra Hacksaw Blades	5	Hardware
68	External Straight Plier	External Straight Plier	1	Hardware
69	Long Nose Plier Plier	Long Nose Plier	1	Hardware
70	Combination Mini Plier	Combination Mini Plier	1	Hardware
71	Wire Stripper Plier	Wire Stripper Plier	1	Hardware
72	Ball Pein Hammer	Ball Pein Hammer	1	Hardware
73	Steel Shaft Claw Hammer	Steel Shaft Claw Hammer	1	Hardware
74	C Clamp	C Clamp	2	Hardware
75	Allen Key Set	Allen Key Set	1	Hardware
76	Screw Driver Set	6 Piece Precision Screw Diver Set	1	Hardware
77	Adjustable Universal Multi Spanner	Adjustable Universal Multi Spanner	1	Hardware
78	Rubber Air Pump Cleaner Dust Blower	Rubber Air Pump Cleaner Dust Blower	1	Hardware
79	Electric Screw Driver Set	Electronic Screw Driver Set	1	Hardware
80	Dual Temperature Heat Gun	Dual Temperature Heat Gun	1	Hardware
81	Soldering Helping Hand	Soldering Helping Hand	1	Hardware
82	Return measuring Tape	Return measuring Tape	1	Hardware
83	Stainless Steel Rule	Stainless Steel Rule	1	Hardware
84	Digital Vernier Caliper	Digital Vernier Caliper	1	Hardware
85	Spirit Level	Spirit Level	1	Hardware
86	Peg Board	Peg Board	2	Hardware
87	Hot Glue Gun	Hot Glue Gun	1	Hardware
88	Soldering Station	Soldering Station	1	Hardware
89	Glue stick	Glue stick	10	Consumable



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90	Cable Tie	Cable Tie	10	Hardware
91	Sand Paper	Sand Paper	5	Hardware
92	Power Strip Adapter	Power Strip Adapter	2	Hardware
93	Bulb Holder	Bulb Holder	5	Hardware
94	Electric Wire	Electric Wire	5	Hardware
95	USB to DC Jack Cable	USB to DC Jack Cable	5	Hardware
96	Rotary Grinder and Cutter Tool	Rotary Tool	1	Hardware
<b>Safety Accessories</b>				
97	Safety Goggles	For chemical splash and smoke from soldering	10	Consumable
98	Safety Gloves Pair	Latex Coating Cloves	10	Consumable
99	Safety Mask	Safety Mask	10	Consumable
100	First Aid Kit	First Aid Kit	2	Consumable
101	Programming Software	Arduino, Processing, M-Block, Scratch, TinkerCAD, App Inventor, Scratch, EagleCAD	Each Lab	Software

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**Annexure-F (d)**

**Establishment of Computer Lab in 450 No. of Schools:**

<b>S.No.</b>	<b>Items Descriptions</b>	<b>Nos.</b>
1	Desktop Computer System	01
2	Web Camera	01
3	Thin Client Kit with Monitor, Keyboard and Mouse	09
4	Line Interactive UPS, 1000 VA with 30 Minutes backup	01

**1. Desktop Computer:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Make/Brand	Branded Desktop (Should be in IDC Top 5 in India in last three years under Desktop category)
Processor	Intel Core i5 (10generation) or higher/ AMD Ryzen 5 or higher with minimum 6 Core, 3.0 GHZ (Base Frequency), 6 MB Cache
Chipset	OEM Compatible Chipset
Graphic	Integrated HD Graphic
Memory	8 GB DDR4 RAM, 2666 MHz or Higher
Storage	1 TB 7200 SATA HDD
Display	OEM 19 inch (or higher) HD Color Monitor with 1600*900 or Higher resolution and internal speaker, ROHS compliance, TCO8 or higher
Keyboard-Mouse	OEM USB Keyboard (104 Keys) & OEM Optical Scroll Mouse with mouse pad.
I/O Port (Minimum)	6 USB Ports out of which min 2x3.0, VGA& HDMI Port, Audio Jack for Headphone & Mike, 1-Display Port/DVI
Network and Connectivity Features	10/100/1000 on board integrated network port. Integrated Wi-Fi and Bluetooth connectivity features.
Accessories	All necessary cables (power and data cables), Dust cover for CPU, Monitor & Keyboard etc.
Additional Accessories	High Definition Audio and external Speakers -2 Nos.
Operating System	Windows-10 Professional - 64 Bit Original (Academic Version)
Preloaded (installed) Software (FOSS)	(1) VLC player latest version (2) Open office latest version (4) Free mind (5) GIMP (6) Pidgin (7) Turtle art (8) Hindi Fonts (9) GeoGebra (10) Adobe Acrobat Reader
Preloaded Content	Department will provide e-content of about 100 GB, same should be preloaded in to the Desktop.
Certification:	RoHS compliance, BIS
Warranty:	5 years comprehensive on-site warranty

**2. Web Camera:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Device Type	Plug & Play Web Camera
Connectivity Technology	Wired
Resolution	Minimum optical 2 MP and Shall support 1080 video capture at 30 fps
Video	HD 720 P/30 FPS
Image Sensor	CMOS
Features	Clear and richer picture with 5G/>=60 degree wide angle Lens, brightness controller, digital zoom
OS Support	Windows, Mac and Linux
Video Input	Color

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Audio	Built-in mics with auto noise reduction
Interfaces	USB 2.0 and Above Connector
Cable Details	USB Cable min 1 Meter
Certification	ISO/ RoHS Compliance
Warranty	5 years comprehensive on-site warranty.

**3. Thin Client with monitor, key board and mouse:**

Item	Minimum Technical Specifications
Make/Brand	Branded Device (Should be in IDC Top 5 in India in last three years under thin client category)
Processor	Intel/ AMD Quad Core Processor upto 2.0 GHz or higher Processor with 4 MB Cache
Graphic	HD Graphic
Memory (RAM)	4 GB DDR4 RAM, 2666 MHz or Higher
Storage	64 GB MIC/ SSD
Display	OEM 19 inch (or higher) HD Color Monitor with 1600*900 or Higher resolution and internal speaker, ROHS compliance, TCO8 or higher
Keyboard-Mouse	OEM Brand USB Keyboard (104 Keys) & OEM Optical Scroll Mouse with mouse pad.
Accessories	All necessary cables (power and data cables), Dust cover for CPU, Monitor & Keyboard etc.
I/O Port (Minimum)	4 USB (min 2x3.0, 2 USB ports in the front) ports, 1 headphone (front), Microphone (front), Line in, line out, VGA, HDMI Port.
Network & Connectivity Features	10/ 100/1000 on board integrated network port. Integrated Wi-Fi
Features	Should be VDI certified (Citrix or VMware), Seamless working of YouTube, Local video play, video play from server. Capable to work on RDP protocol. Device should work as independent client/system.
Operating System	Windows 10 Enterprise academic (Embedded)
Thin Client Management System	Management software (OEM owned or should be of CMMI Level-3 Software Developer company) covering Remote Monitoring, Tree view structuring district wise schools, Compliance management, Security management etc. System should be able to monitor log (on/off) and activities of each connected device in the workgroup and enable/ disable Write protect, Option to Disable/Unable USB Ports, Sent/Broadcast Message/Screen, Dash Board with H/w/S/w information, Remote installation of application/Patches, change management, reports of each activity as mentioned in feature list etc.)
Certification	BIS (OEM Name & Model number should be mentioned in the certificate), RoHS Compliance.
Warranty	5 years comprehensive on-site warranty.

**4. UPS 1 KVA:**

Item	Minimum Technical Specifications
UPS Capacity	1 KVA
Protection	Full Protection
voltage	230V +10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload



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Plug and cable	Input cable of 1.5 Mtr with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault Over Load, Low Battery
Certifications	BIS, ISO, ROHS
Test report	OEM should submit test report for the quoted model issued by state/ central laboratory (not old from last 5 Years)
Warranty	3 years comprehensive on site OEM warranty

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Annexure "G"

**Technical specifications suggested by Dept. of IT&C for Commercial Taxes Dept. (CTD) are as follows:**

**1. Desktop Computer:**

Item	Minimum Technical Specifications
Processor	Intel i5/ AMD Ryzen-5 (10/11 <sup>th</sup> Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Commercial class Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Windows 10/11 Professional (64 bit) with OEM recovery partition/ recovery DVD.
Graphics	Integrated Graphics Card
Memory (RAM)	8 GB DDR4 2666 MHz or higher Expandable up to 64 GB
Storage	1 TB 7200 RPM SATA Drive
Optical drive	DVD R/W
Ports	Minimum 6 USB ports with at least 2 USB 3.0 or higher ports, 1- VGA, HDMI, audio jack for headphone & microphone
Display	19.5" inch monitor- Resolution 1360x768 – TCO08 certified
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Certification	ROHS Compliance, energy star, EPEAT, certified for supplied OS ISO 9001, 14001 for OEM
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse With mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet
Accessories	All necessary cables (Power & data cables) , 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on site OEM warranty

**2. MFP (Laser):**

Item	Minimum Technical Specification
Type of machine	Multifunction Machine
Printing method	Monochrome laser
Printing Technology	Laser(Black)
Printer Speed	25 ppm
Input Tray Capacity	100 Pages or higher
Printer Resolution	600x600 dpi or higher
RAM Size/ Memory	256 MB
Connectivity	USB, Ethernet
Duty Cycle (Monthly)	10000 Pages
Auto Duplex Print for A4 or Legal	Yes
Functions	Print, Copy, Scan
Scanning feature	Yes
Scan Type/ Technology	Flatbed with ADF
Scan file format	PDF, JPEG, TIFF, BMP etc.
Media size supported	A4, A5, Legal
Scan Speed	15 ppm or higher
Scan resolution	600x600 dpi or higher
Copy resolution	600x600 dpi or higher
Toner/ Cartridge	Laser Black toner cartridge pre-installed



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<b>Item</b>	<b>Minimum Technical Specification</b>
Wi-Fi	Yes
Energy Star	Yes
Compatible Operating System	Window 7, 8, 10 (32/64 Bit, Linux- Mac OS)
Cables/ Accessories	All the required cables, Accessories.
Software media	Driver & utility Software CD/DVD
BIS Registration	Yes
Other Certifications	BIS, ISO for OEM
Warranty	3 years comprehensive on site OEM warranty

**3. MFP (Ink Tank):**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Type	Ink Tank, Monochrome
Print Speed	20 PPM
Functions	Print
Duty Cycle (Monthly)	10000 Pages
Duplex Printing	Auto
Port	USB, Ethernet
Tray	Input Tray : Min 100 sheets Output Tray: Min 100 Sheets
Certification	Energy Star
Processor	500 MHz or higher
Memory	64 MB or higher
Operating System	Windows and Linux
Warranty	3 years comprehensive on-site OEM warranty

**4. UPS:**

<b>Item</b>	<b>Minimum Technical Specification</b>
UPS Capacity	1 KVA
Protection	Full Protection
User Display	Display for input & output Voltage and battery charging
voltage	230V +10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries) (Brands preferred - Exide/ Quanta-Amron/ HBL/ Yuasa/ Hitachi)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable of 1.5 Mtr with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault, Over Load, Low Battery
Certifications	BIS, RoHS, ISO 9001 & 45001 for OEM
Test report	OEM should submit test report for the quoted model issued by state/ central laboratory/NABL accredited labs (not old from last 5 Years)
Warranty	2 years comprehensive on site OEM warranty



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**Annexure-H**

**Technical specifications suggested by Dept. of IT&C for College Education Dept. are as follows:**

**1. Laptop:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Processor	Intel Core i5/ AMD Ryzen 5, (11th Generation/ equivalent AMD), Minimum 4 core, minimum 2.4 GHz base frequency or higher, cache 8 MB or higher
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Display	14" or higher diagonal +/-5% FHD Display
Memory (RAM)	16 GB DDR4 2666/ 2933 MHz or higher, expandable up to 32 GB
Hard Drive	1 TB SATA Drive and 256 GB SSD
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, 1 HDMI, Headphone/ microphone combo/ separate
Network card	Integrated 10/100/1000 GB Ethernet LAN
Wireless Connectivity	Bluetooth 4.0 or higher & integrated Wi-Fi 802.11 b/g/n
Graphics	Integrated HD Graphics
Web Cam	HD Web Camera (Front facing)
Battery	Minimum 3 Cell 40 Whr with minimum back up of 8 Hrs
Power Adapter	Standard OEM power adapter
Antivirus	Preloaded Internet Security of Trend Micro/ Symantec/ Sophos/ Quick Heal/ Kaspersky with '3' Year Subscription
Keyboard	OEM standard keyboard with gesture support
Certification	BIS, ROHS Compliance, energy star, Certified for supplied OS
Information Accessibility	Product details, specifications and brochure to be available in public domain
Accessories	Carry Bag, 3 Mtr. CAT 6 Patch Cord
Warranty	3 years comprehensive on-site OEM warranty

**2. i-Mac Desktop:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Processor	3.8 GHz 8-core 10th-generation Intel Core i7, Turbo Boost up to 5.0GHz Configurable to 3.6GHz 10-core 10th-generation Intel Core i9, Turbo Boost up to 5.0GHz
Display	68.58 cm / 27-inch (diagonal) 5K Retina display 5120x2880 resolution with support for 1 billion colors, 500 nits brightness Wide color (P3) True Tone technology Configurable with Nano-texture glass
Memory (RAM)	8GB (two 4GB) of 2666MHz DDR4 memory; four SO-DIMM slots, user accessible Configurable to 16GB, 32GB, 64GB or 128GB
Hard Drive	512GB SSD Configurable to 1TB, 2TB, 4TB or 8TB SSD
other	Video Support and Camera

**3. Desktop PC:**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Processor	Intel i5/ AMD Ryzen-5 (10 <sup>th</sup> Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Motherboard	OEM Motherboard
Operating System	Pre-installed Genuine OEM Microsoft Windows 10 Professional (64 bit) with OEM recovery partition/ recovery DVD
Graphics	Integrated Graphics Card
Memory (RAM)	8 GB DDR4 2666/2933 MHz or higher with minimum 2 DIMM Slots, Expandable up to 32
Storage	1 TB 7200 RPM SATA Drive
Optical drive	DVD R/W
Ports	Minimum 6 USB ports with at least 2 USB 3.0 or higher ports, 1-VGA, HDMI, audio jack for headphone & microphone
Display	Minimum 21.5" inch or higher, Resolution 1920x1080 or higher Display, TCO Certified
Office	Open office updated version (freeware)
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Certification	ROHS Compliance, energy star, Certified for supplied OS
Keyboard & Mouse	OEM USB Keyboard & OEM USB two button optical Mouse With mouse Pad
Network Interface	Integrated 10/100/1000 GB Ethernet Wi-fi and Bluetooth inbuilt
Accessories	All necessary cables (Power & data cables) , 3 Mtr CAT 6 patch cord to be included
Warranty	3 years comprehensive on site OEM warranty

**4. Multifunction Laser Printer:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Functions	Print, Copy, Scan, Fax
Printer Speed	Up to 25 PPM
Paper handling input	250-sheet input tray, 10-sheet priority tray, 50-sheet Automatic Document Feeder (ADF)
RAM Size/ Memory	256 MB or higher
Connectivity, Standard	USB, Ethernet
Display	9.2 Monochrome LCD Touch Screen Display
Duplex Print	Duplex printing
Scan Type/ Technology	FLATBED and ADF
Scan file format	JPEG, PDF, PNG
Media size supported	A4, A5, B5, C5, DL, 16k, Envelopes
Scan resolution/ Size	600x600 dpi / color contact image sensor
Paper size	A-4,B5,A5,B6, letter, legal, executive, foolscap
Warranty	Warranty for three years
Certification	BIS Certificate for the quoted MFP, RoHS

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**5. Laser Printer (Black & White):**

<b>Item</b>	<b>Minimum Technical Specifications</b>
Type	Laser, Monochrome
Print Speed	18 PPM
Functions	Print, Copy and Scan
Duty Cycle (Monthly)	10000 Pages
Duplex Printing	Auto
Port	USB, Ethernet
Tray	Input Tray : Min 100 sheets Output Tray: Min 100 Sheets
Certification	BIS, RoHS, ISO for OEM
Processor	500 MHz or higher
Memory	64 MB or higher
Operating System	Windows and Linux

**6. Printer (Color):**

<b>Item</b>	<b>Minimum Technical Specification</b>
Paper size	A4, A5, A6, B5, C6, DL
Input Tray Type	Standard Cassette
Print Speed (B/W)	25 PPM or higher
Print Speed (color)	15 ppm
Ink Color	Black, Cyan, Magenta, Yellow
Scanner type	Flatbed color image scanner
Maximum scan area	216x297mm (8.5"x11.7")
Yield of cartridge/ ink tank/ink pack supplied with printer	10000
life of Drum in terms of number of prints in case of separate drum and toner cartridge technology	10000
Duty cycle	4000
Warranty	Warranty for three years
Certification	BIS Certificate for the quoted MFP, RoHS

**7. High Speed Scanner:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Scanner type	ADF
Type	Sheet Feed Scanner
Feeder capacity	60 sheets
Scanning Resolution	600 dpi in scanning resolution
Duplex Scan	Yes
Scanning side	Front / Back / Duplex
Daily Duty Cycle	4000 scans
Scan Speed (Black & White)	45ppm / 90ipm
Scan Speed (Color)	30ppm / 60ipm
Warranty	Warranty for three years

**8. Projector:**

<b>Item</b>	<b>Minimum Technical Specification</b>
Resolution (Minimum)	Full HD (1920 x 1080)
Technology	LED



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Lumens	Min 3300 Lumens
Aspect ratio (Minimum)	16:9/ 16:10
Contrast ratio	15000:1
LED life	30,000 hours
Sharing	Wireless screen share with Mobile & PC
Accessories	Ceiling mount kit, HDMI Cable (15 Meters)
Input	D-Sub 15 Pin: 1, Stereo mini jack audio in, Composite in, HDMI in, VGA in, RGB in
Output	Stereo mini jack audio out, RGB out, HDMI/ VGA out
Connectivity	Wireless LAN, Wired Network, RS-232C, USB
Others	Ultra Short Throw large projection screen size
Plug & Play Feature	USB plug & play
Warranty	Warranty for three years

**9. UPS:**

Item	Minimum Technical Specification
UPS Capacity	1 KVA
Protection	Full Protection
User Display	Display for input & output Voltage and battery charging
voltage	230V +-10%
Range	160V - 280V
Power factor	0.6 or higher
Back up time	168 VAH for 30 Minutes backup on 1 PC (Inbuilt Batteries) (Brands preferred - Exide/ Quanta-Amron/ HBL/ Yuasa/ Hitachi)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Plug and cable	Input cable of 1.5 Mtr with 3 pin Indian plug and output have 4 nos. of 5 pin Indian socket
Battery Type	Sealed Lead Acid Valve Regulated
Alarm	ON Battery/ Fault, Over Load, Low Battery
Certifications	BIS, RoHS, ISO 9001 & 45001 for OEM
Test report	OEM should submit test report for the quoted model issued by state/ central laboratory/ NABL accredited labs (not old from last 5 Years)
Warranty	3 years comprehensive on site OEM warranty

**10. Networking:** For establishment of networking, department may contact RISL.

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