

GOVERNMENT OF RAJASTHAN
Department of Information Technology & Communication

No.: F.5 (1322)/ DoIT/ Tech/ 2020/ ML-2341

Dated: 09/04/2021

Minutes of 84th meeting of SeMT dated 30-03-2021

The Eighty Fourth (84th) meeting of the State e-Governance Mission Team (SeMT) was held under the Chairmanship of Principal Secretary, IT&C on 30th March, 2021 at 12:30 PM in the Committee Room, 2nd Floor, Dept. of IT&C, I.T. Building, Yojana Bhawan Campus, Tilak Marg, C-Scheme, Jaipur – 302 005 (Rajasthan). List of participants is enclosed at **Annexure –"A"**.

The followings were discussed in the meeting:

1. Project : Revised Technical Specification for IT items (Desktop Computer, MFP, UPS & Laptop) to be utilized under National Agriculture Market (e-NAM)

The Committee was informed about the project proposal submitted by Directorate of Agriculture Marketing. The Directorate intends to revise/ upgrade of technical specifications for Desktop Computer (All-In-One), Laptop, Multi-Function Printer (MFP) and 1 KVA UPS; which were approved earlier in 79th meeting of State e-Governance Mission Team (SeMT) under e-NAM Project for Directorate of Agriculture Marketing, GoR, Jaipur.

In the matter, a meeting of PeMT of Dept. of Directorate of Agriculture Marketing had been convened on 10-09-2020 under the Chairmanship of Principal Secretary, Agriculture for discussion on the IT Items (Computer, Laptop, MFP and 1 KVA UPS) approved earlier by SeMT/ Dept. of IT&C.

Revised Technical specifications along with observations of Technical Committee of Dept. of IT&C are attached at Annexure-“B”.

Financial Implication:

Estimated cost of the project proposal is Rs. 528.95 Lakh.

Fund Management:

Expenditure would be met from funds available with Directorate of Agriculture Marketing.

Keeping in view of the fact of urgency of work, technical approval has already been accorded by Principal Secretary, IT&C on dated 20-10-2020 as being the chairman of SeMT.

The Committee accords ex-post-facto revised technical approval on the proposal having estimated cost of Rs. 528.95 Lakh; subject to the funds availability and approval of funds from Finance Dept.

2. Project : Establishment of 3 Virtual Classroom at Police Training School in Bikaner, Alwar, and Bharatpur

The Committee was briefed about the proposal. The Virtual classrooms were established earlier in Police Department at 8 locations by Dept. of IT&C /RISL. Now seeing the covid-19 outbreak police department wants to extend the facility to the 3 more centers i.e. Bikaner, Alwar, and Bharatpur. Hence, Virtual Classrooms are to be established at 3 Police Trainings Schools to improve the quality of teaching in the State of Rajasthan.

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The purpose of these virtual classroom is to use latest Information and Communication Technologies (ICT), to facilitate, enhance and share the teaching contents and lectures.

Functional requirement:

Trainers at one Police Training Schools can give live lectures to trainees simultaneously. This training/ teaching sessions can be recorded and saved in the server for future references. Trainers at Center can have interactive session with trainees. Each of the lectures shall be interactive where trainers and trainees can discuss the topics with the help of IT systems on real time basis. Each of these lectures can be recorded, edited and stored on a central server which can later be downloaded and accessed by trainees for future references.

Each of the Police Training School (PTS) has an auditorium which shall be equipped with videoconferencing and AV equipment so that trainees have the best in class e-learning experience during lectures.

PTS shall provide and solely be responsible for providing network, civil and electrical infrastructure to the Dept. of IT&C/ RISL.

Item required for setting-up of one (1) Virtual Class Room-

S.No.	Item Description
1	USB PTZ Camera for Instructor
2	USB PTZ Camera for Class
3	4000 Lumens Short Throw Projector
4	100 inch or higher Projection Screen
5	48 inch Professional LED Displays
6	LCD Writing Panel
7	I5 based Desktop
8	USB Video Mixer
9	Video Graphic Processor
10	Gooseneck Microphone for Podium
11	Lapel Microphone
12	Handheld Microphone
13	DSP with Audio Mixer
14	Power Amplifier
15	Wall Speakers
16	Distribution Switcher for Local Class Input
17	HDMI Distribution Switcher for Local Class Input
18	Customized Podium having Controller and 7 inch or higher touch control
19	L3 Switch
20	5 KVA Online UPS
21	HDMI Cable
22	Five Conductor Mini High Resolution Cable / VGA Cable

Technical specifications along with observations of Technical Committee of Dept. of IT&C are attached at Annexure-C".

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Financial Implication:

Estimated financial cost of the proposal is as mentioned below:

(Amount in Rs.)

S. No.	Item	Unit Cost	Qty. for 3 Classroom	Total Cost
1	PTZ Camera i.e. for class, for instructor	150000	3	450000
2	100 inch or higher Projection Screen with interactive device	50000	3	150000
3	e-Podium with accessories i.e. 17 inch Tab, DSP, Microphones	500000	3	1500000
4	Controller with 7 inch device	150000	3	450000
5	Wall Speakers	100000	3	300000
6	L3 Switch with Rack	50000	3	150000
7	5 KVA Online UPS (1year Warranty on Batteries)	100000	3	300000
8	Short Throw Projectors	75000	3	225000
9	Misc. Cost i.e. Installation Cost, Cables, Conduit	200000	3	600000
10	Operationalization Cost (1 Year)	250000	3	750000
11	Bandwidth Cost 8 Mbps for 3 years	100000	3	900000
Total Cost				5775000
Say (Rs. in Lakh)				57.75

Fund Management:

Expenditure would be met from the fund available with Police Dept.

The Committee is of the view that the procurement of the required hardware items would be done at the level of Rajasthan Police Academy/ Dept. Software licences and Bandwidth to these centres will be provided by RajCOMP Info Services Ltd. (RISL); for which a separate Statement of Expected Expenditure (SoEE) will be produced for Rajasthan Police Academy/ Dept. by RISL.

The Committee accords technical approval on the proposal having estimated cost of Rs. 57.75 Lakh; subject to the funds availability and approval of funds from Finance Dept.

3. Project : Development/ Enhancement of the Application software for Rajasthan State Open School (RSOS)

The Committee was informed about the proposal. Rajasthan State Open School (RSOS) intends to develop RSOS Admission and Examination Management (RAEM) application which shall involve automation of complete academic processes from Admission to conduct of examination and publication of results. System will provide one integrated application for following:

- i. Online Admission
- ii. Pre- Examination Management
- iii. Conduct of Examination
 - a. AI Centre Material Download
 - b. Exam Centre Material Download
- iv. Fictitious Code Generation
- v. Online Option for Entry of Sessional & Practical Marks
- vi. Online Option for Upload of marks scored & Evaluation of Results



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Project Duration: The Contract/ Project Period shall be of three years including one (1) year of development & implementation & two year of FMS/ Maintenance Services of RSOS Admission and Examination Management (RAEM) and new functionalities developed in the project. The project period will be started from the Feb 2020.

Financial Implication:

(Amount in Rs.)

S.No.	Modules	Estimated Cost
1.	Design, Development & Maintenance of RSOS Admission & Examination Management System (RAEMS) with Annual Maintenance Cost for Two Years (including RISL service charges and GST)	97,08,000

Fund Management:

Total project cost of INR 97.08 Lakh of which INR 52.08 Lakh shall be provided by RSOS and remaining Rs. 45.00 Lakh would met from the funds made available with "Backend & New Projects" Budget Head of Dept. of IT&C; @ Rs. 15.00 Lakh per annum in three (3) consecutive financial years from 2020-21.

The Committee accords technical approval on the proposal having estimated cost of Rs. 97.08 Lakh; subject to the funds availability and approval of funds from Finance Dept.

4. Project : Revised project proposal of "Complete Consolidated Project for implementation of SAP-ERP in RVPN" for hosting of SAP-ERP application at IDC & DRC services at BSNL Faridabad and Ahmadabad up to October, 2022 (By RVPNL)

The Committee was brief about the revised proposal submitted by RVPNL. While technical approval accorded in the 80th meeting of SeMT held on 10-09-2020; for extending the existing contract with BSNL for availing data center services for six (6) more months [i.e. till 29th April, 2020] for hosting of SAP-ERP application at IDC & DRC services at BSNL Faridabad and Ahmadabad for the "Revised project proposal of Complete Consolidated Project for implementation of SAP-ERP", the view of the Committee on the proposal was as follows:

- (a) RVPNL will submit revised plan with reasons for extending the services of BSNL.
- (b) A Committee consisting Commissioner & Special Secretary, IT&C; Director (Technical), RajCOMP Info Services Ltd., Technical Director, BSDC and team of concerned officers of RVPNL will prepare an action plan for RVPNL.
- (c) RVPNL will Re-submit the proposal accordingly for technical approval of SeMT/ Dept. of IT&C.

In accordance to the same, RVPNL submitted revised plan for the extension of RVPN IDC & DRC services at BSNL Faridabad and Ahmadabad up to October, 2022; in light of the facts as mentioned below:

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1. An order to host SAP-ERP application was placed on BSNL initially for the period of 3 years from Oct. 2015 till Oct 2018 for providing Internet Data Centre Services (IDC) at Faridabad and Disaster Recovery Centre (DRC) at Ahmedabad with conditions that all the Physical servers shall be handed over by BSNL to RVPN and shifted to Dept. of IT&C data center after 3 years. The service of IDC Faridabad was activated up to October 2018 and DRC Ahmedabad activated w.e.f. 05-05-2017 to 04-05-2020 for a period of 3 years. The services of IDC Faridabad were extended for one more year i.e. till Oct 2019 during 77th SeMT on 15-05-2019 and further for 6 months till Apr- 2020 vide Dept. of IT&C letter dated 18-03-2020.
2. Service model of RVPN Infrastructure is a hybrid model wherein the servers have been provided by the BSNL and its maintenance, OS licenses, VM ware, hypervisors services etc. are being provided by BSNL along with Managed Hosting. RVPN is having total 13 Physical servers (8 Application servers & 5 HANA Database servers) at IDC Faridabad and 4 Physical servers (2 Application servers & 2 HANA Database servers) at DRC Ahmedabad with other cloud services.

3. Reasons of extending the IDC services-

As per the decision of 18th PeMT held on 16th Dec. 2019 and confirmed vide MOM dated 16th January 2020, that in place of IDC, Disaster Recovery Centre (DRC) at Ahmedabad is to be shifted first. In this context it is to intimate that during the meeting held on 10th July 2020 it was decided that Ahmedabad till Oct-2022 respectively due to various technical reasons as mentioned below:-

- A. As Dept. of IT&C is only providing Co-location hosting at DoIT's Data Centre i.e. not the Managed Hosting services as provided by BSNL Data center wherein RVPN does not have to take care of various operational issues like OS Licenses, AMC of servers, SSL certificates etc. In this context following is submitted-
 - Earlier in the year 2018, Dept. of IT&C had agreed to arrange maintenance support of servers at IDC Faridabad and send a Statement of Estimated Expenditure (SoEE) of Rs. 8.64 Crore towards providing maintenance support of 13 number of servers for a period of three (3) years other than cost of maintaining the data Centre services. However bid for procurement of maintenance Support services was canceled due to extension of IDC services at BSNL. Thereafter, Dept. of IT&C refused to arrange maintenance support despite request from RVPN. RVPN obtain budgetary proposal for providing maintenance support of the servers at an estimated cost of Rs. 3.70 Crore for three (3) years. Tender document for hiring AMC services was also finalized.
 - At present Operating system (OS) being used is SYSE-Linux whereas RSDC is using REDHAT-Linux. Therefore RVPN will have to procure OS licenses at an estimated cost of Rs. 84.00 Lakh for which also tender document has been prepared by RVPN.
 - In addition to above, RVPN was required to arrange Hypervisor services, HANA server management, storage, SSL certificate etc. at its own.
 - Dept. of IT&C has also expressed its inability to provide management of HANA servers.
 - Initially shifting of IDC Faridabad was included in the scope of work of our SI i.e. M/s Gemini Consultancy and services Pvt. Ltd. who was appointed in Sept. 2019 for providing maintenance support of SAP-ERP application. However due to

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decision of 18th PeMT regarding first shifting of DRC to Jodhpur additional work has to be awarded to our SI as it was initially not taken in the scope of RVPN SI.

- In this context, it is also submitted that RVPN being a power transmission company does not have expertise to manage all these issues related to AMC, OS licenses hypervisor services, server management etc.
- B. Due to difference of V-Center versions between BSNL Data Centre (V centre-5.5) and DoIT Data Centre Jaipur (V-centre-6.5) RVPN has to carry out fresh installation of OS and SAP application including migration of data which was not included in scope of work of SI.
- C. An exercise was carried out by copying the VM data from BSNL Faridabad and transferring the same on machine in the BSDC, Jaipur but the same was not successful due to difference in the V-Centre version.
- D. As main parts of the Physical are attaining end of life by the year 2021 & 2022 therefore RVPN has to again procure new servers/ VMs and fresh installation of OS and SAP application has to be carried out in the year 2022 which will again incur additional expenditure.
- E. During the shifting of DRC infrastructure, the involvement of various agencies such as BSNL, NxtGen, AMC contractor, DoIT&C and RVPN will coordination between them is very critical. Also existing Data center hardware is very old which requires up gradation as it is creating issues in present scenario.
- F. Recently in the month of April 2020 and in August 2020 there were breakdown in Development and production servers at IDC Faridabad wherein the defective parts could be arranged by BSNL as they were having AMC arrangements with the OEM. In view of these breakdowns it is felt that shifting of these servers would be a risky proposition.
- G. The existing SAP application is working with HANA suite database system. The support of HANA suite is available up to 2014 as per SAP. Further HANA suite needs to be upgraded on S-4 HANA and again fresh installation/ migration of existing system which involves cost and efforts. RVPN plans to combine up-gradation to S4 HANA and migration to DoIT cloud simultaneously so as to avoid multiple down time.

It is also submitted that the overall cost (including the cost of AMC, cost of licenses etc.) of hosting at BSNL data center is lesser as compared to hosting at RSDC-P4 on the same time shifting of servers includes the disturbances/ risks which may result in interruption of IDC services.

In view of this, it has been decided by Whole Time Directors (WTDs) of RVPN to extend the services of IDC & DRC at BSNL IDC Faridabad and DRC Ahmedabad up to October, 2022.

Action Plan proposed by RVPNL for shifting IDC services to RSDC P4-

RVPN would migrate SAP-ERP application as a fresh installation on DoIT Data Center Jaipur infrastructure and DR at Jodhpur before September 2022 as per following plan:-

1. Process shall be initiated in January, 2022 and necessary orders etc. shall be issued to RISL by February 2022 for hosting SAP-ERP application on RSDC-P4 and RSDC DR at Jodhpur.
2. All the necessary installation like OS/ SAP shall be completed by June, 2022.
3. Testing and final migration shall be completed by July, 2022.

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After detailed conversation, directions were issued by the Committee as RVPNL will have to submit a Detailed Note to Commissioner & Special Secretary, IT&C at the earliest; bearing the comparison of the estimated cost/ expenditure; being paid presently to BSNL for hosting of the SAP/OS for the duration up to October 2022; and the same arrived in case of opting to host this SAP/ OS at RSDC up to October 2022, considering/ comparing the both, further decision may be decided.

Up till that, the Committee's decision is pending on the revised proposal and Action plan submitted by RVPNL.

5. Project : Revised Agenda for Raj eVault Project

The Committee was briefed about the revised proposal of Raj eVault. Dept. of IT&C has initiated the project "Raj eVault" to provide a smart and dynamic solution for digital content repository to deal huge amount of digital content (documents/licenses/ ECM generated files) of citizens and integrate the application with various departments, legacy systems and 3rd party applications to provide the unified and secured access of content for various authorization purpose to achieve the vision of digitization for the state government. The application also supports in increasing the transparency in the issuance of certificates and documents, removed tedious paper work and reduces the turnaround time of certificate issuance.

The project was earlier approved in the 57th SeMT meeting dated 17.06.2015 with project cost of Rs. 1580.00 Lakh for a period of one (1) year i.e. 2015-16. The total amount of Rs. 1265.24 Lakh was received from e-Office Budget Head for the project and payment of Rs. 1073.00 Lakh has been made till date. The budget available under the project is Rs. 192.00 Lakh.

The eVault is currently providing services to eighteen (18) departments of GoR to store and maintain the departmental documents/ files as well as certificates/ licenses issued to Citizens. The documents/ certificates will be accessible to citizens, via online application created for Raj eVault (<https://evault.rajasthan.gov.in/rajevault/#>). Details of the same is as follows:

1.	Jan Aadhaar	2.	Panchayati Raj Department
3.	Department of Mines and Geology	4.	Pehchan
5.	Ayushman Bharat Mahatma Gandhi Rajasthan Swasthya Bima Yojana	6.	Mukhya Mantri Jal Swavalamban Abhiyan Scheme (MJSAs)
7.	AG Office	8.	Rajasthan State Board of Education
9.	Department of Forests (FMDSS)	10.	Raj Kaj
11.	Directorate, Planning Department	12.	Rajasthan Public Service Commission
13.	EMitra	14.	Document Verification System
15.	IHMS	16.	Raj Sampark
17.	Legal Metrology Department (LMD)	18.	State Insurance & Provident Fund Department (SIPF)



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Revised Scope of Work:

Phase 1 – Development of Application (6 Months)-

The application will facilitate departments to register and able to share the links of documents with citizen and requester departments. Citizen and requester department will be able to manage the document and able to choose SMS/ Email notification. The citizen eVault will be integrated to DigiLocker.

Other Features:

- Admin Dashboard and MIS will be available to the user.
- The system should follow UIDAI guidelines.
- Incorporation of Security Observations

Infrastructure Upgrade and IBM Support

- Component to be upgraded:
 - a) IBM DB2
 - b) IBM WebSphere application server
 - c) IBM FileNet Content Manager
 - d) IBM Content Navigator
- Upgrade Performed on:
 - a) Upgrade of DEV, UAT, DR and Production server
 - b) Support DR drill activity
- Migrate web application and all services on to upgraded version
 - a) Web Application
 - b) Web Services
 - c) Data Migration
 - d) Testing

Phase 2 - Operation and Maintenance: 2.5 Years

- Implementation of Document Verification and Authentication System.
- Policies to be made for documents being stored on Raj eVault.
- Separate instance to be made for IM Server.
- Resolution of Connection/ Transactional / Access related Issues for departments and citizens
- Perform daily health check on Content Engine, Process Engine and Application engine servers
- Capacity Building
- Enhance the adoption of system across state department

Project Duration:

The proposed timeline for the execution of the project would be three (3) years i.e. 2020-2023.

Revised Financial Implication:

The revised financial estimation of the project is as per the following:

(Rs. in Lakh)

S.No.	Year	Description	Total Revised Estimated Cost
1.	First (1) Year	Application Software Development	125.00
2.		Infrastructure Upgrade and IBM Support	100.00
3.		O&M	90.00
4.	Second (2) Year O&M		180.00
5.	Third (3) Year O&M		180.00
6.	Training and Other Miscellaneous Expenses		25.00
7.	RISL Charges		82.00
8.	Total		782.00

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Expenditure would be met from the funds available with "e-Office" Budget Head of Dept. of IT&C (*as Rs. 192.00 Lakh is already available under the project and additional Rs. 590.00 would be managed under this Budget head*).

The Committee accords revised technical approval on the proposal having estimated cost of Rs. 782.00 Lakh; subject to the funds availability and approval of funds from Finance Dept.

6. Project : Extension of Project Management Unit (PMU) for the Operation & Maintenance (O&M) of Raj-SIPF project

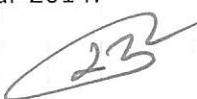
The Committee was informed about the requirement of extension of PMU for O&M of Raj-SIPF Project. The project was initiated in accordance to the approval of Finance Department and request of SIPF Department. SIPF Portal Application facilitates State Government Employees in performing various transactions related schemes like GPF, SI, NPS, GIS, MediClaim etc. It is an online work flow based application for employees of Government of Rajasthan covering:

- State Insurance
- Provident Fund
- National Pension Scheme
- MediClaim
- Management Information System

Scope of Work (SoW):

As per the scope of the project following 3 components were envisaged:

- **Integration of PayManager and SIPF portal:** The integration with PayManager was initiated in month Sept.2014 and it was completed in stipulated time period. After this the task of importing legacy transaction data from 1st April 2012, was completed in March 2015. For this implementing agency was M/s WIPRO Ltd. (selected on single source procurement basis). Due to this integration many modules of existing system had become obsolete, so the process of revamping and redesigning of the application was initiated after approval from SeMT. As per this approval all the modules were made operational from 15.08.2016.
- **FMS and AMC of SIPF portal for 5 years:** After completion of development in all respects, the work order for FMS and AMC of SIPF application for one year was issued to M/s Wipro Ltd. This work order got expired 01.09.2017. But for proper functioning of the application and to meet out day to day change requests from the department, the operation and maintenance of the application was mandatory. For this purpose, the services of 9-man power consisting of 5 Developers and 4 Helpdesk engineers were hired from NCSI. The Helpdesk services has been expired on 31.10.2019. The DevOps services are going to expire on 31.10.2020.
- **Change Request:** The third component of the project was provision for change request at the time of integration only. The provision of change request was consumed during the process of integration in the year 2014.



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Also, for proper functioning and day to day changes requested by SI&PF department the Operation and Maintenance of application is to be carried out continuously as and when required. For this services of a technical team i.e. PMU (Project Management Unit) consisting of 5 Developers (5 DevOps) are required.

The overall cost for the proposed Establishment of PMU (Project Management Unit) for the Operation and Maintenance of Raj-SIPF project is estimated at about INR 104.44 Lakh (*RISL service charges have also been included in the cost estimates*).

Financial Implication:

The financial implication evaluated by technical team for Man Month effort Estimates for PMU (Project Management Unit) for one year would be as under:

(Amount in Rs.)

S.No.	Resource	Qualification/ Experience	Total No. of Required resources	Reference to NICSI Table	Cost Per resource Per Month	Cost of total resources Per year (D x F x 12)
A	B	C	D	E	F	G
1	Developer (DevOps)	BE/ B.Tech/ MCA & 5+ Yrs Experience	5	As per the Price List issued by NICSI Vide No. 10(24)/2015- NICSI	1,34,789	80,87,340
2					Total	80,87,340
3					GST (18%) on S.No.2	14,55,721
4					Total (2+3)	95,43,061
5					RISL Service Charge @8% on S.No.4	7,63,445
6					GST (18%) on RISL Service Charge S.No.5	1,37,420
7					Total expenditure(4+5+6) for One Year	1,04,43,926
					Say (Rs. in lakh)	104.44 Lakh

Fund Management:

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

The Committee accords technical approval on the proposal having estimated cost of Rs. 104.44 Lakh; subject to the funds availability and approval of funds from Finance Dept.

Meeting ended with a vote of thanks to the chair.

This bears the approval from competent authority.


 (B.S. Nathawat)
 Technical Director &
 Joint Secretary, IT&C

Dated:

No.: F.5 (1322)/ DoIT/ Tech/ 2020/

Copy for information and necessary action to:

1. P.S. to Principal Secretary, Finance Department, Rajasthan, Jaipur
2. P.S. to Principal Secretary, Education Dept., Rajasthan, Jaipur
3. P.S. to Principal Secretary, Agriculture Dept., Rajasthan, Jaipur
4. P.S. to Principal Secretary, Dept. of IT&C, Rajasthan, Jaipur
5. P.S. to Chairman & Managing Director, Raj. State Vidyut Prasaran Nigam Ltd., Jaipur

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6. P.S. to Secretary, Planning Dept., Rajasthan, Jaipur
7. P.S. to Commissioner & Special Secretary, Dept. of IT&C, Rajasthan, Jaipur
8. P.S. to Director, Rajasthan State Agriculture Marketing & Ex-Officio Joint Secretary To Government and Administrator, Agriculture Marketing Board, Jaipur
9. P.S. to Director (Technical), RajCOMP Info Services Limited, Jaipur
10. P.S. to ADGP (Training), Rajasthan Police, PHQ, Lal Kothi, Jaipur
11. P.S. to Secretary, Rajasthan State Open School (RSOS), Jaipur
12. DDG & SIO, NIC, Rajasthan, Jaipur
13. P.A. to Joint Secretary (Expenditure-III), Finance Department, Raj., Jaipur
14. Shri Sanwar Mal, Financial Advisor, Dept. of IT&C, Jaipur
15. Shri B.S. Nathawat, Technical Director & Joint Secretary, Dept. of IT&C, Jaipur
16. Shri Kamlesh Kumar Meena, Chief Engineer (IT), RVPNL, Jaipur
17. Shri Manish Athaiya, Superintending Engineer (MIS&IT), RVPNL, Jaipur
18. Shri Ramesh Chand Sharma, Additional Director, Dept. of IT&C, Jaipur
19. Smt. Jyoti Luhadiya, Additional Director, Dept. of IT&C, Jaipur
20. Shri Yogmitra Dinkar, Additional Director (Systems), SI&PF Dept.-HQ, Jaipur
21. Shri Pradeep Kumar Sharma, ACP (Dy. Director), Dept. of IT&C, Jaipur
22. Shri Vijay Kumar Kanugo, Dy. Manager (T), RISL, Jaipur
23. Director, LNMIIT, Jaipur
24. Guard File.


(Sushil Parihar)
Addl. Director, IT&C



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Annexure-A

84th Meeting of SeMT held on 30-03-2021- List of Attendees

S.No.	Name of officer	Designation
1.	Shri Ajitabh Sharma	Principal Secretary, IT&C, Rajasthan, Jaipur
2.	Shri Virendra Singh	Comm. & Spl. Secretary, Dept. of IT&C, Jaipur
3.	Shri Lakshman Gaur	I.G.P (Training), Rajasthan
4.	Shri Mahendra Singh Karol	S.E. (Electrical), RSAM Board, Jaipur
5.	Shri Keshar Singh	Dy. Dir., Directorate of Agriculture Marketing, Jaipur
6.	Shri H.K Juneja	Joint Secretary, Finance (E-III)
7.	Shri Sanwar Mal	Financial Advisor, Dept. of IT&C, Jaipur
8.	Shri B.S. Nathawat	Technical Director & Joint Secretary, DoIT&C, Jaipur
9.	Shri Mahesh Kumar	Secretary, Raj. State Open School (RSOS), Jaipur
10.	Smt. Manju	D.S. (Gr. 2), Education Dept.
11.	Shri K.K. Meena	ACE (IT) RVPN, Jaipur
12.	Shri Manish Athaiya	SE (MIS&IT), RVPN, Jaipur
13.	Shri Sushil Parihar	Additional Director, Dept. of IT&C, Jaipur
14.	Shri R.C. Sharma	Additional Director, Dept. of IT&C, Jaipur
15.	Smt. Jyoti Luhadiya	Additional Director, Dept. of IT&C, Jaipur
16.	Shri Yogmitra Dinkar	Additional Director- systems, SIPF, Jaipur
17.	Shri Praveen Kumar Jha	Joint Director, Planning Dept., Jaipur, Rajasthan
18.	Shri Sanjay Singhal	S.A. (Joint Director), Dept. of IT&C, Jaipur
19.	Shri Pradeep Kumar Sharma	A.C.P. (Dy. Director), Labour Dept., Jaipur
20.	Shri Rajkumar Singh	A.C.P. (Dy. Director), Dept. of IT&C, Jaipur
21.	Shri Anshu Jain	AEN (MIS&IT), RVPN, Jaipur
22.	Shri Vijay Kumar Kanugo	DM (T), RISL, Jaipur
23.	Shri Nikhil Meena	Asst. Programmer, Dept. of IT&C, Jaipur
24.	Ms. Garima Yadav	IA, Dept. of IT&C, Jaipur

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Annexure-“B”

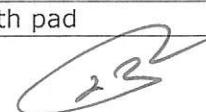
Revised Technical Specification for IT items (Desktop Computer, MFP, UPS & Laptop)
 suggested by Technical Committee of Dept. of IT&C; to be utilized under “**e-NAM**” Project
 by Directorate of Agriculture Marketing

Desktop Computer:

Item	Minimum Technical Specification
Processor	Intel i5/ AMD Ryzen-5 (10 th Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Operating System	Windows 10 Professional 64 bit preloaded with OEM recovery partition/ Recovery DVD
Graphics	Integrated Graphics Card
Memory (RAM)	8 GB DDR4 2666 MHz or higher
Storage	1 TB 7200 RPM SATA Drive
Ports	Minimum 6 USB ports out of which Min 2 USB 3.0 OR higher, 1- Display Port/ HDMI, audio jack for headphone & mic
Display	Minimum 19.0" inch or higher HD Plus (Resolution 1600x900) 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, BEE/ Energy Star Certified, EPEAT Certified
Keyboard & Mouse	OEM USB Keyboard & OEM USB Mouse With Pad
Network Interface	Integrated 10/100/1000
Office	Open office updated version (freeware)
Accessories	All necessary cables (Power & data cables) to be included
Warranty	3 years comprehensive on site OEM warranty from date of installation

Desktop Computer (All-in-One):

Item	Minimum Technical Specifications
Processor	Intel i5/ AMD Ryzen-5 (10 th Generation/ equivalent AMD) 6 core, with minimum 3.0 GHZ or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD chipset
Operating System	Windows 10 Professional 64 bit preloaded with OEM recovery partition/ Recovery DVD
Graphics	Integrated Graphic card
Memory (RAM)	8GB DDR4 2666MHz or higher
Storage	1 TB 7200 RPM SATA Drive
Ports	Minimum 4 USB ports or higher out of which Min 2 USB 3.0 OR higher, Display Port, HDMI Port, audio jack for headphone & mic
Display	21.5 Inch Full HD Display, TCO Certified
Antivirus	Preloaded (Latest version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years Subscription
Certification	ROHS Compliance, BEE/ Energy Star certified, EPEAT Certified
Keyboard & Mouse	OEM USB Keyboard & OEM USB Mouse with pad





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Network interface	Integrated 10/100/1000
Office	Open office updated version (freeware)
Accessories	Web Cam, Speaker & Mic. and all necessary cables (Power & data cables) to be included
Warranty	3 years comprehensive on site OEM warranty from date of installation

Laptop:

Item	Minimum Technical Specification
Processor	Intel®core i7 10 th Generation quad core, with minimum 1.8 GHz or higher (Base Frequency), 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% HD Display
Memory (RAM)	8 GB DDR4 2400 MHz or higher
Hard Drive	1 TB SATA Drive
Speaker & Microphone	Inbuilt speakers and integrated digital microphone
Connection Type	Minimum 2 USB 3.0 or higher, 1 VGA/ HDMI, Headphone/ microphone combo/ separate, 1 multi-format SD media card reader
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	Integrated HD Graphics
Web Cam	HD Web Camera (Front facing)
Battery	Minimum 4 Hrs. Battery Backup (three years warranty)
Power Adapter	Standard OEM power adapter
Antivirus	Preloaded Internet Security of Trend Micro / Symantec / Sophos/ Quick Heal/Kaspersky with 5 Year Subscription
Office	Open Office updated version (freeware)
Keyboard	OEM standard keyboard with gesture support
Certification	ROHS Compliance, Energy Star, Certified for supplied OS, EPEAT Certified
Accessories	Carry Bag
Warranty	3 years comprehensive on site OEM warranty from date of installation

Multipurpose Laser Printer (MFP):

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	On USB, Ethernet
Duty Cycle (Monthly)	10000 Pages
Auto Duplex Print for A4 or Legal	Yes
Functions	Print, Copy, Scan
Scanning feature	Yes

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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
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	UL, CE
Warranty	3 years comprehensive on site OEM warranty from date of installation

UPS: 1KVA

Item	Minimum Technical Specification
UPS Capacity	1 KVA
Protection	Full Protection
Certifications	BIS Certification for the quoted Model
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)
Indicator	Mains On/ On Battery/ Low Battery/ Fault/ Overload
Alarm	ON Battery/ Fault, Over Load, Low Battery
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 from date of installation

Hand Held POS Terminal:

Item	Minimum Technical Specification
Form Factor	Device should be a Hand Held Terminal
Processor	Min. Quad core Processor
CPU Speed	Min 1.0 GHz
RAM (GB)	1 GB or Higher RAM
Inbuilt Storage (Flash Memory) min. (GB)	8 GB or higher memory
Operating System	Android 5.1 or higher
Expansion slot (GB)	Micro SD slot 2 support SD card minimum 8 GB
Communication	Terminal shall support GSM networks with 4G (including 2G &3G support) and Wi-Fi
GSM	4G/ LTE
Interface	Minimum- 1 USB: USB 2.0/ Type-C1/ 1 Micro USB



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Display	5.5 inches LCD with backlight, Color TFT , minimum HD (720x1280) resolution , High-Bright capable of reading even in bright sunlight, Capacitive Touch screen
Keypad	Soft Keypad
Battery	Swappable and Dry/rechargeable minimum 4000 mAh or higher, Li-ion or Li-ion or LI-Polymer capable for providing min. 6 hours operation while all function of device are active
Charger	1. Power adaptor with surge protection and operating range of 100W to 240V, 50Hz. AC input. 2. One extra charger is to be provided
Slots	Min. 2 GSM slot
Audio Port	In built speaker (Support WAV and MP3 files)
Finger print scanner	STQC Certified fingerprint sensor and OEM should comply with UID guidelines of biometric machines (RD 2.5) including managing APIs and backend for biometric scanner
Battery Chemistry	Li-Ion
Battery Capacity (mAH)	4000
Status indications	Indicators for connectivity (presence/absence), signal strength, battery status, etc.
Cabinet	Aesthetically designed ABS & Poly Carbonate/acrylic/other tough material integrated in rugged casing, with integrated Printer, LCD display, inbuilt finger print scanner and Keyboard
Carry Case	Durable carry case to house the Handheld Terminal with manual
Management	Device should be remotely manageable in secured mode through MDM
Language support	Bilingual support(Hindi and English) to be extended to Keyboard
Security	256-bit AES and SHA -256 for full compliance with Aadhaar Authentication API specifications (9)
Certification	1. As per STQC guidelines 2. IP 51 certified 3. BIS 4. CE, FCC, RoHS Marking
Bilingual Support	Device must support both English and Hindi Languages in the application running on the device
GPS	GPS Inbuilt
Camera	Inbuilt
Drop/Free Fall Test Compliance	Drop/ Free fall test in unpacked, switched off and normal handling conditions (Height: 1.2 M, Total No. of Falls:2)
Warranty	3 years comprehensive on site OEM warranty from date of installation

Note: Department mentioned for Inbuilt Debit/ Credit Card Reader with Integrated Thermal Printer, Inbuilt Contact Smart Card Reader and Writer; as the department requirement was not clear for the add-on items, therefore Dept. is advised to take appropriate decision at its own level for these add-on items on the basis of their requirement and usability of the item.

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Technical Specification suggested by Technical Committee of Dept. of IT&C; to be utilized for "**Establishment of 3 Virtual Classroom at Police Trainings School in Bikaner, Alwar, and Bharatpur**" by Police Dept.

1. PTZ Camera for Instructor:

Parameter	Min. Specifications
White Balance	The camera should have an Option of Auto or Manual White Balance.
Gain Control	The camera should have an auto Gain Control
Picture controls	The camera should have picture control for brightness, color, saturation, contrast, sharpness, and gamma
S/N ratio	The camera should have a S/N Ratio of >50db.
Focus	The camera Lens should have an Auto Focus.
Sensor	The camera should have 1/2.8" HD CMOS
Optical Zoom	The camera should have a 10 X or more Optical Zoom.
Video Output	The camera should have a standard video output though HDMI
Signal Support	The camera should support signals: 1080P@30, 1080P@25, 1080i@60, 1080i@50, 720P@60, 720P@50, 720P@30, 720P@25
Communication	The camera should have an RS 232, LAN / RJ45 port for Communication
Pre-sets	The camera should have Upto 16 Position Pre-sets and Min. 10 accessible from IR remote.
Viewing Angle	The camera should have 6° (telephoto), 60° (wide-angle) or better
Pan Range	The camera should have Pan movement range of - 170 degrees to + 170 degrees or better
Tilt Range	The camera should have Tilt movement range of - 30 degrees to + 90 degrees or better
Remote Control	The camera should be supplied with IR remote control as an included accessory, Min. 16 pre-set should be available & should support VISCA, Pelco-D, and Pelco-P camera control protocols
Accessories	The camera should be supplied with ceiling mounting structure for proper installation
Certification	CE, FCC

2. PTZ Camera for Class:

Parameter	Min. Specifications
White Balance	The camera should have an Option of Auto or Manual White Balance.
Gain Control	The camera should have an auto Gain Control
Picture controls	The camera should have picture control for brightness, color, saturation, contrast, sharpness, and gamma
S/N ratio	The camera should have a S/N Ratio of >50db.
Focus	The camera Lens should have an Auto Focus.
Sensor	The camera should have 1/2.8" HD CMOS
Optical Zoom	The camera should have a 18 X or more Optical Zoom.
Video Output	The camera should have a standard video output though HDMI
Signal Support	The camera should support signals: 1080P@30, 1080P@25, 1080i@60, 1080i@50, 720P@60, 720P@50, 720P@30, 720P@25
Communication	The camera should have an RS 232, LAN / RJ45 port for communication



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Pre-sets	The camera should have Upto 16 Position Pre-sets and Min. 10 accessible from IR remote.
Viewing Angle	The camera should have 6° (telephoto), 60° (wide-angle) or better
Pan Range	The camera should have Pan movement range of - 170 degrees to + 170 degrees or better
Tilt Range	The camera should have Tilt movement range of - 30 degrees to + 90 degrees or better
Remote Control	The camera should be supplied with IR remote control as an included accessory, Min. 16 pre-set should be available & should support VISCA, Pelco-D, and Pelco-P camera control protocols
Accessories	The camera should be supplied with ceiling mounting structure for proper installation
Certification	CE, FCC

3. 4000 Lumens Short Throw Projector:

Parameter	Min. Specifications
Technology	LCD
Lumens	Min 4000 ANSI
Resolution: Min WXGA (1280 x 800)	WXGA (1280 x 800)
Aspect ratio	16:9/ 16:10
Contrast ratio	3000:1
Input	VGA x 1, HDMI x1, Component Video: D-sub 15 pin x1 (in common with Analog RGB connector)
Output	D-sub 15pin (Black moulding) x 1 (Output signal : Computer 1 only)
Audio input:	Stereo mini jack x 1
Audio Output:	Stereo mini jack x 1
Communication terminal	D-sub 9pin x 1 / RS-232C
Lamp Hours	Min 4000 hours in Eco mode

4. 100 inch or higher Projection Screen:

Parameter	Min. Specifications
Screen Size	100" or higher Diagonal
Aspect Ratio	16:9/16:10 or better (HD Format)
Motor	Tubular Up – Down
Fabric	Matt White
Screen Border	Z Black/ White
Control	Should be compatible with the controller supplied and shall be controlled by the screen control ports of the controller

5. 48 inch or larger Professional LED Displays:

Parameter	Min. Specifications
Panel Screen Size	Should be "at-least 48" or larger
Aspect Ratio	16:09 /16:10
Native Resolution	Should be 1920X1080 or better
Brightness	Should be 350 cd/m ² or more

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Video Inputs	Should have at-least 1 x HDMI, 1 X DVI-D and 1X15 Pin video input interface
Control Port	Should have at-least 1 RS-232 In
Typical Power Consumption	Should be 175W or Less
Speakers	Should come up with 10W X 2 Speakers inbuilt or external
Accessories	Should come up with Power Cord, remote control and RGB cable
Viewing Angle	170 * 170
Protective Cabinet	Display shall be provided with protective wooden cabinets

6. LCD Writing Panel with Stylus:

Parameter	Min. Specifications
Size	Size should be 15.6 inch or higher
LED	The monitor should be LED backlit.
Resolution	The monitor should have a native resolution of 1366 x768 or better
Port	Should come with a USB port for control signals, one HDMI output port.
Luminosity	The monitor should have a Luminosity of 210 cd/m^2 or more.
Connectivity	Should have a 15 Pin HD Input ports or DVI port.
OS Support	Should support Win 10 or higher.
Sensor	Should have an Electromagnetic Sensor Method.

7. Desktop Computer System:

Item	Minimum Technical Specification
Processor	Intel i5/ AMD Ryzen-5 (10 th Generation/ equivalent AMD) 6 Core, with minimum 3.0 GHz or higher (Base Frequency), 12 MB Cache or higher
Chipset	Compatible Intel/ AMD Chipset
Operating System	Windows 10 Professional 64 bit preloaded with OEM recovery partition/ Recovery DVD
Graphics	Integrated Card
Memory (RAM)	8 GB DDR4 2666 MHz or higher
Storage	1 TB 7200 RPM SATA Drive
Ports	Minimum 6 USB ports out of which Min 2 USB 3.0 OR higher, 1- Display Port/ HDMI, audio jack for headphone & mic
Antivirus	Preloaded (Latest Version) Internet Security of Trend Micro/ Quick Heal/ Symantec/ Sophos/ Kaspersky with 3 years subscription
Certification	ROHS Compliance, BEE/ Energy Star Certified, EPEAT Certified
Keyboard & Mouse	OEM USB Keyboard & OEM USB Mouse With Pad
Network Interface	Integrated 10/100/1000
Office	Open office updated version (freeware)
Accessories	All necessary cables (Power & data cables) to be included
Warranty	3 years comprehensive on site OEM warranty from date of installation

8. Gooseneck Microphone for Podium:

Parameter	Min. Specifications
Frequency	The microphone should have a frequency response of 70 Hz to 16000 Hz or better

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Pattern	The Microphone should have a Cardioid polar Pattern.
Connector	The Microphone should come up with standard 3 PIN XLR Connector.
Cartridge/ Transducer Type	Should be a Fixed-charge back plate, permanently polarized condenser
Normal Impedance	Less then – 200 Ω
Maximum SPL	134 DB (SPL@1%THD)
Dynamic Range	106 dB (1 kHz at 1 Pa)
Power	Phantom power 9-52V DC, 2 mA
Accessories	Should be supplied with windscreen and Anti-Shock Mount

9. Lapel Microphone:

Parameter	Min. Specifications
Channels	The microphone should have at least 10 numbers of Channels
Control method/ Transducer Type	The microphone should have hypercardioid True Diversity Receive Mode
Frequency Response	100 – 15000 Hz.
Total Harmonic Distortion	<1.0% (at 1 kHz, ±20 kHz deviation)
Operating range	100M
RF Power Output	High: 30 mW, Low: 10 mW (switchable)
Dynamic Range	> 110dB
switch function	Mute/unmute & On/OFF
Accessories	Detachable Antennas, Rack mount kit

10. Handheld Microphone:

Parameter	Min. Specifications
Channels	The microphone should have at least 10 numbers of Channels
Control method/ Transducer Type	The microphone should have hypercardioid True Diversity Receive Mode
Frequency Response	100 – 15000 Hz.
Total Harmonic Distortion	<1.0% (at 1 kHz, ±20 kHz deviation)
Operating range	100M
RF Power Output	High: 30 mW, Low: 10 mW (switchable)
Dynamic Range	>110dB
switch function	Mute/unmute & On/OFF
Accessories Included	Detachable Antennas, Rack mount kit

11. DSP with Audio Mixer:

Parameter	Min. Specifications
Audio Ports	Digital Signal Processor with at least 8 Audio Ports IN and minimum 6 Out) is required including Audio Input for <ul style="list-style-type: none"> • 1 No Gooseneck Mic • 2 No Handheld MIC • 1 No Lapel Mic • 1 inbuilt or external USB Audio port to allow digital connection between DSP and the PC • 1 Laptop in (preferably USB)
Echo cancellation	Digital Signal Processor with an Acoustic Echo Cancellation of up to 40 dB would be required.

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Noise cancellation	The Digital Signal processor should perform Noise Cancellation of up to 20dB for the Podium Microphone, Wireless lapel microphone and handheld Microphone.
Environment Noise	The Digital Signal processor should Suppress residual Echo to the Environment Noise Level to Prevent Artificial Ducking of Signal
Equalization	The Digital Signal processor should have Power Level Equalization.
Convergence	Convergence during full duplex
Control	Should have RS 232/ Ethernet for control through third party control system
Frequency response	20 Hz to 20 kHz
Dynamic range	> 105 dB

12. Power Amplifier:

Parameter	Min. Specifications
Watts	The System should consist of 150 Watts per channel X 2 Channel Amp.
Channels	The system should have at least two numbers of Channels.
Other	Amplifier: RMS Output – Minimum 150 watts x 2 at 4 Ohms. Input Channel – Balance Mic or Line In Stereo Channel In – Stereo Line Input Frequency Response – 20~20000 Hz ± 3dB SN Ratio > 90- dB T.H.D - 0.05% @ 20Hz – 20kHz. Class: D

13. Wall Speakers:

Parameter	Min. Specifications
Loud speaker	Two-way high power cabinet loud speaker with minimum of 70 Watts
Impedance	Impedance to be 8 ohms
Frequency	The Speaker should have a frequency response of 80 Hz to 17000Hz
Nominal Sensitivity	Nominal Sensitivity : 87 dB SPL or better
Woofer	Woofer size to be 6" or more HD Type
Dom"	0.75"- 1.1" HD Silk dome on varithroat horn
Accessories	Speakers should be supplied with ceiling mounting structure for proper installation
Certification	CE, FCC

14. 2x1 HDBT on podium plate Module/ Transmitter with HDMI and VGA+Audio inputs:

Parameter	Min. Specifications
Switcher	2x1 HDBT switcher with 1XHDMI and VGA+Audio inputs transmitter and compatible receiver.
Transmission Range	It should transmit Video signal/ Power and control up to 70 meters using HDBT link.
Input Selection	Automatic input selection using hot plug detect and automatic display control.
HDCP	HDCP 1.4 compliance.
Powered	Transmitter powered by receiver via PoE



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Input Resolution	Input resolution support up to 1080p@60 Hz.
Certification	CE, FCC

15. 4x4 HDMI Matrix Switcher with audio de-embeddeing:

Parameter	Min. Specifications
Output	Min. 4 HDMI matrix output
Input	Min. 4 HDMI Input
Compliant	HDCP, EDID Compliant
Support	4K/UHD capability @60Hz
CEC	CEC display control
Audio De-embedding	Built-in HDMI audio de-embedding
Color Depth	8bit, 10bit
Bit Rate	upto 24-bit
Audio	Multi-channel audio compliant
Control	TCP/IP, RS232 & IR Control
Certification	CE, FCC

16. Customized Podium having Controller and 7 inch or higher touch control:

Parameter	Min. Specifications
IR	The System should support IR Learning.
LAN	The system should come with min two LAN Ports.
RS232 Control	The System should have 2 numbers RS 232, 2 No Screen Control Ports, 1 No IR receiver, 1 number Program input Control, 1 no RS 232C. Ports less than this would not be accepted.
Touch Control	7 inch touch control interface needs to be supplied and fixed inside the Podium/dais. Resolution: 800 x 480 View Area: 7 Inch Power : 12V / 1A Memory: 512 MB or more
Podium	Good Quality Wood with good quality metal body
Storage	Podium should have rack storage inside the podium to keep all the below mentioned items <ul style="list-style-type: none"> • Writing Panel/ Tablet • Desktop • HDMI Video Mixer • DSP • Amplifier • Switch and Wi-Fi Modem
Ports on Podium	The body of the stand should have the following Ports: AC Socket, RGB, MIC, USB, Video, Audio

17. L 3 Switch:

Parameter	Min. Specifications
Interfaces	8 auto sensing 10/100/1000 Ethernet ports
Features	Store and forward; Full and Half duplex auto negotiation
Switching Capacity	16 Gbps
Forwarding Capacity	11 mpps or higher

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18. 5 KVA Online UPS:

Type	Item	Technical Specification
Generic	Rating in KVA (KVA)	5.0 KVA
	Technology	IGBT-PWM with inbuilt isolation transformer
	Input Power	single phase 160V - 260V sinewave, 50Hz
	Output power	Single phase 230V +/-5% sinewave 50 Hz
	Backup time (Minutes)	30
	Minimum VAH (VAH)	4000
	Warranty for UPS (Years)	3
	Movable trolley for Batteries	Without trolley but with rack
	Warranty for battery	2
	Degree of Protection	IP20
	Cabling 5 meters for input and out put	With
	Paralleling kit for Synchronizing	Without
Constructional	Installation and Commissioning	Yes
	Type of Battery	SMF-VRLA
Functional	Maximum overshoot and Under shoot of output rated voltage	4
	Overall Efficiency (%)	>/=90%
	Total Harmonic Distortion (THD) (%) for 100% leaner load	Maximum 3%
Protection	Protection for under voltage at battery terminal at 10.5V per 12 V battery.	Yes
	Protection of Over voltage, Short Circuit & over load at UPS output terminal	Yes
Metering & Indications	Digital Metering in UPS for AC Input Voltage, Output AC Voltage, Current, Frequency, Battery Voltage and Current	Yes
	Indicators for mains presence, Battery charging and discharging, Output Over Load, Low Battery Voltage	Yes
Reports & Certification	Damp Heat : in accordance with IS:9000(part 5/sec.2)1981 at Temperature of 40 degree C, two cycles of (12+12) hours each 2007)	Yes
	Dry Heat Test: in accordance with IS: 9000 (part 3/sec.5)1977 (reaffirmed 2007) at 55 degree C for 16 hrs.	Yes
	Cold Test: in accordance with IS: 9000 (Part 2/Sec.4)1977 (Reaffirmed 2007) at -10	Yes



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	degree C for 4 hrs.		
	Availability of the Type Test Report from Central Govt. /NABL/ILAC Accredited lab covering all technical requirements.		Yes

19. HDMI Cable:

Item	Min. Specifications
HDMI Cable	Standard HDMI cables and should have some locking capability for holding the cable in its position and should be molded/ crimped cables at both ends Shall support 1080p up to 35 feet/ 11 Meters
Certification	UL Listed

20. Five Conductor Mini High Resolution Cable / VGA Cable:

Item	Min. Specifications
Construction	Coax center conductor 28 AWG Outer Jacket PVC Impedance 75 Ohm
Certification	UL Listed

21. HDMI Extender Kit:

Extension range	HDBaseT Extender kit for HDMI Upto 70 meters.
Support	Extender kit with long distance AV signal extension without PoE capability or control signal extension
Resolution	Extender kit should support resolution upto 4k HDR, 4K/ UHD capability @60Hz
Front Panel	Front panel LED indication for Power and HDBT link.
Audio	Extender kit should be able to pass multi-channel Audio format on HDMI.
HDCP	HDCP 2.2 compliance.
Powered	Receiver powered by transmitter via PoE
Certification	CE, FCC

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