

# भारतीय सूचना प्रौद्योगिकी संस्थान, इलाहाबाद Indian Institute of Information Technology, Allahabad

An Institute of National Importance by Act of Parliament Deoghat, Jhalwa, Allahabad-211015 (U.P.) INDIA

Ph.: 0532-2922025, 2922067, Fax: 0532-2430006, Web: www.iiita.ac.in, E-mail: contact@iiita.ac.in

Ref no. IIIT-A/ENQ/FIP/329/329 /2018 Date: 02/07/2018

#### TENDER NOTICE

- 1. Sealed tenders are invited under **Two Bid Systems** for the **Supply, Installation,** commissioning and testing of Digital Lights at Auditorium at Indian Institute of Information Technology, Allahabad. The detailed specifications and terms & conditions are given in Annexure I, II, III, IV,V, VI, VII, VIII, IX, X, XI, XII. Tender document may be downloaded from the Institute website www.iiita.ac.in."
- 2. Tenderers are requested to submit the quotation by courier/speed post with complete details of specifications, terms & conditions, warranty/guarantee etc. Quotation should be in two separate sealed envelopes "Technical Bid" and "Commercial Bid" and placed in a single envelope with name of the tender, ref. number and closing date subscribed on the top of the envelope addressed to the Faculty In-charge Purchase, IIIT-Allahabad upto 24/07/2018, 12:00 Noon. Quotations duly sealed may also be dropped in the tender box placed in the office of the Faculty In-charge, Purchase, IIIT-Allahabad. Basic rate, taxes and other charges if applicable etc. must be quoted separately, F.O.R. destination at IIIT-A, Jhalwa, Allahabad. Please note that tender document will not be accepted after the expiry of stipulated date and time for the purpose.
- 3. Details of Bank account of Firm for returned of EMD and/or Performance Security

Bank's Account Holder Na	ame:
Type of Account Name:	
V -	***************************************
Account No:	*******************
IFSC Code:	

**4. E.M.D.:** EMD (Rs.19,000/-) should be directly transfer into the bank account (IIITA General AC) of Indian Institute of Information Technology Allahabad through RTGS/NEFT and the tender document should be accompanied with the transaction receipt of RTGS/NEFT (Any bid without EMD fee receipt will not be considered). EMD receipt should be enclosed with the Technical Bid document in a separate envelop.

The detail of institute's Bank account is as below;

Account Name: IIIT-A General AC Bank Name: Indian Overseas Bank

Address: 61, M.G. Marg, Civil Lines, Allahabad

Account No.: 035001000060976

IFSC Code: IOBA0000350

Amount of EMD as below:

S.No	Description	EMD Amount	Transaction No. & Date
	Supply, Installation, commissioning and testing of Digital Lights at Auditorium	₹19,000/-	

5. The Technical Bids will be opened on-24/07/2018 at 4:00 PM. Tender Opening Committee authorized by the Competent Authority. The date fixed for opening of bids, if subsequently declared as holiday by the Government, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working date, the time remaining unaltered. The financial bids of only those bidders, who's Technical Bids will qualify, shall be opened by concerned committee. For any queries regarding the tender, please send a mail to info.purchase@iiita.ac.in.

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Faculty In-charge Purchase

Copy to:

> PS to Hon'ble Director- for kind information to Hon'ble director please.

### Annexure-I

## **Technical Bid**

## (On letter head of the Firm & in a separately sealed envelope)

#### PROFORMA FOR APPLICATION

1. Name of the firm :	
2. Address of the firm :	
	***************************************
3. Phone Number (With Code):	
4. Proprietor's name:	
5. Address of Proprietor:	
6.Proprietor's Phone No.:-	29
7.Email Id:	
8.Details of the firm:-	
(a)Date from w	which the firm is operating:
(b)Turnover of the firm during: -	
FY 2016-17 (₹)	
	FY 2017-18 (₹)
	(Please attach documentary evidence)
(c) PAN No. :	
(d) GSTNo. :	

#### General Terms and Conditions of the Tender

- 1. Kindly mention enquiry number, subject, due date, contact address etc., on your quotation. Incomplete quotation will not be accepted.
- 2. **Bid:** The tenders are to be submitted in two part viz. "**Technical Bid" and "Financial Bid"** in two separate sealed envelopes separately. The Financial Bid will be opened only after acceptance of "Technical Bid".
- 3. Detailed specifications, catalogue/literature of all the items quoted should be supplied with the technical bid.
- 4. Vendors are desired to quote rates of all items listed as annexure-V. Failing which tender will not be considered.
- 5. **Warranty:** Warranty will start from the date of successful installation report at IIIT-A. Warranty start and end date should be clearly mentioned in the bill and warranty card duly signed & stamped, if applicable.
- 6. **SECURITY DEPOSIT:**The successful bidder has to deposit Security deposit which will be equivalent to 5% of the contract value in favour of 'IIIT-Allahabad', which has to be electronically transfer through the RTGS/NEFT into the bank account of Institute as mentioned below:

Account Name: IIITA General AC

Bank Name: Indian Overseas Bank

Address: 61, M.G. Marg, Civil Lines, Allahabad

Account No.: 035001000060976

IFSC Code: IOBA0000350

- 7. Security deposit should remain valid for a period of sixty days beyond the warranty period. No interest shall be paid on Performance Security. The Performance Security will be forfeited by order of the Competent Authority in the event of any breach or negligence or non-observance of any terms & conditions of the contract or for unsatisfactory performance or for non-acceptance of the supply order. EMD will be released after receiving of transaction receipt of RTGS/NEFT of security amount.
- 8. **Delivery Schedule:** The supply period shall commence from the date of issue of purchase order and completion period will be strictly 4-5 weeks.
- 9. **Payment:** Payment will be made within 15 days after acceptance of delivery of material, Installation and satisfactory report.
- 10. **Penalty:** If the supply delayed beyond the stipulated time of completion of supply, penalty of 1% per weeks and maximum up to 10% of the total cost may be imposed at the discretion of competent authority.
- 11. **Exemption:** The institute is exempted from custom in terms of notification No. 51/96-custom dated 23/07/96 and is an University established under M.H.R.D. Govt. of India. Certificate to this if, required shall be provided by the Institute.
- 12. **Transit Permit (E way bill):** Transit road permit in the prescribe proforma shall be made available as per rule by the Institute on the request of the supplier if, required.
- 13. Price Basis & applicable Tax claim: Price should be quoted by interested tenderer inclusive of all up to F.O.R. IIITA, Allahabad basis. Vendor should clearly mention the Rate of applicable GST Tax separately, if firm will not mentioned the Taxes clearly on their Price Quotation, IIIT Allahabad will assume that the quoted price is inclusive of all and no extra amount at a later stage shall be paid by IIIT, Allahabad on account of Taxes.
- 14. If it is found that items are fake or of sub-standard quality and not conforming to the required specifications, the firm will have to replace the fake/ sub-standard items with genuine ones immediately but they will also be liable to be blacklisted.
- 15. Rate quoted by the firm should not be higher than the MRP/ prevailing market rate.
- 16. Conditional quotations are liable to be rejected. In the event of acceptance, Director's decision will be final. The rates should be quoted as per our required specifications.
- 17. The rates should be quoted in Indian rupees. Evaluation of offers will be made on the basis of total amount of all items inclusive of all charges, taxes, duties, etc., for the indicated quantity in the attached format. Rate for all the items is to be quoted by the tenderer. In case of any item has not

been quoted by any bidder that bid for such items will be loaded with the highest rate received for that item as evaluation is to be done on the total amount of all the items for the indicated quantity. However, while awarding the rate contract successful bidder has to supply all the items and for those items for which bidder has not quoted the rates will get the lowest rate received in the tender. Every bidder has to agree to this condition failing which its offer will not be considered for award of work.

- 18. The right to accept or reject any tender/ quotation, partially or wholly, including lowest quotation without assigning any reason whatsoever thereof or incurring any liability thereby is reserved with the Director, IIIT, Allahabad. The Director, also reserves the right to split the tender and place the orders for supply of item(s), mentioned in the enquiry letter on one or more tenderer. The decision of the Director, with regard to enforcement of these terms and conditions herein contained, as a result of breach of these conditions by successful Tenderer/s, shall be final and the Director, shall not be liable for any damage/liability put forth by the Tenderers at any stage of the transaction arising out of the enforcement of any or all herein contained terms and conditions.
- 19. Payment will be made within fifteen days after completion of work, satisfactory inspection & satisfactory report. No conditions/clause with regard to interest etc. shall be entertained.
- 20. The quantity shown in this tender is only approximate requirement and is subject to alteration at the time of placing the supply order and during the pendency of the quotation it will be binding on the part of the successful Tenderers to honour and comply with such orders placed by this Institute.
- 21. All the documents submitted must be legible and self-attested. Otherwise it is likely to be rejected.
- 22. In case the firm fails to complete the job within maximum specified period, Institute reserves the right to get the job done by any other firm and the difference of cost if any, will be recovered from the defaulting firm.
- 23. The EMD, if applicable, shall be returned to the bidder (s) whose offer is not accepted by the Institute within 15 days after finalization and award of the contract without any interest. Unsuccessful bidders may collect the EMD (within next 10 days after finalization & award of the contract) from Purchase Section, IIIT-A between 3PM to 5PM on any working day after providing a copy of any Photo Identity Card. After these 10 days EMD will be sent by registered post to the postal address provided by the firm/bidder at S.No.24. Representative may also collect the EMD on behalf of the bidder, after providing an authorization letter from the bidder along with a copy of his photo identity card. If the return of EMD is delayed for any reason, no interest/penalty shall be payable to the bidder.
- 24. Tenderers responding to this enquiry shall be deemed to be agreeable to the terms and conditions herein contained. These terms and conditions shall be binding on the part of the successful tenderer.
- 25. Tenderer should take into account any corrigendum published on the Tender document before submitting their bids. All such corrigendum will be placed on IIIT-A website www.iiita.ac.in Intending tenderers are advised to visit www.iiita.ac.in for regular update, if any, till the closing date of tender for any corrigendum/ addendum/ amendment. IIITA will not be responsible for ignorance of corrigendum.
- 26. Tender must be quoted in prescribed format on the company/firm letter head.
- 27. If any defect is found in transit it will be the sole responsibility of the supplier to get it corrected and installed as desired by the user.
- 28. Quoted rate should be valid at least for 03 months. Quantity may be increase or decrease as per requirement.
- 29. The firm/company's black listed at any stage need not to apply.
- 30. All pages of the tender documents are to be signed and stamped by the tendering firm.
- 31. Director, Indian Institute of Information Technology, Allahabad reserves the right to reject or accept any tender.
- 32. Director, Indian Institute of Information Technology, Allahabad will be the sole arbitrator of all the dispute and his decision will be binding on both the parties.
- 33. Director, Indian Institute of Information Technology, Allahabad reserves the right to alter/modify any or all conditions of this tender notice.
- 34. Quotation should be addressed to Faculty In charge Purchase, Indian Institute of Information Technology, Deoghat, Jhalwa Allahabad-211015 (U.P.) India.
- 35. All disputes are subject to Jurisdiction of Allahabad.

## For any query pertaining to this bid correspondence may be addressed to

Faculty In Charge Purchase IIIT-Allahabad, Jhalwa, Campus Phone: +91 0532-2922051

E-mail: info.purchase@iiita.ac.in

Faculty In Charge Purchase

Certified that the information in the proforma is true. I/We agree to the contents of terms & condition of the quotation/tender.

Seal and Signature of the Proprietor/Authorized Representative

:

## **Technical Terms and conditions**

- 1. <u>Supplier Capability:</u> The bidder should have Technical expertise in digital stage lighting related work, which includes installation, commissioning etc. as per requirement.
- 2. <u>Installation</u>, <u>Warranty & Training</u>: The vendor shall install and configure all required Digital lighting devices.
- 3. The tenderer should give full details of being the manufacturer or sole distributor or reseller of the items with documentary evidence/authorization letter.
- 4. <u>Authorization</u>: The tenderer should be an authorized dealer/reseller of the Equipment /Original Equipment Manufacturer (OEM) and a certificate to this effect should be enclosed with the technical bid. Preference will be given to the firm, if Manufacturer/ Sole Distributor.

Signature of the tenderer

Seal of the firm

#### Scope of Work

In separate sealed envelope quotations are invited for time bound execution of Digital Lights at Auditorium and cable laying workof auditorium as per annexed layout for Stage lights, wiring and programming/patchingof light console to Digital Lights at Auditorium in institute campus.

- 1. Laying of DMX Cables
  - a) Stage to the console room

b) Between the lights of the stage and switchers/Splitters.

- 2. DMX and other cable will be routed through conduit pipe in under wall trench which will be covered by plaster and paint as present before.
- 3. All lights must be connected by individual power top and socket which is finally connected to MCCD of calculated power.

4. All lights must be connected by individual DMX connector and socket.

5. Taping of wires and cable is strictly prohibited all connection must be done via sealed connectors/jumper/switcher/splitter.

6. Cable route will be properly marked with standard flags

7. Indoor Power Cable and DMX cable Laying through PVC Pipe, Casing including all materials at required places

8. Proper Termination of Cable and feruling along the wall

9. Installation of Lights/Patch Panel/Rack/Switch and System Integration.

10. Patch cord should be branded and factory crimped.

11. Labeling of Cables, installation of Jack Panel, racks for new connections.

12. Installation and termination of cable will be done as per standards

- 13. The installation of equipment's shall be accepted only after installation tests are over.
- 14. Fixing of PVC Casing with accessories on the surface of wall / ceiling / column etc. with clamps, saddles, screws, etc as required.

15. Installation & Termination of digital lights.

16. Installation and Termination of Information Outlet with proper numbering (ferruling).

17. Installation of Racks.

- 18. Testing and Certification for cabling & Points of lighting devise.
- 19. All lights must have safety wire which must be attached to the light and the truss.

20. All lights must be installed on the truss of roof and side wings.

- 21. All lights must be ridge by heavy duty clamps with proper screwed nut and bolt.
- 22. Programming of old lights and new lights is to de done at required places of installation.
- 23. Programming must be done in such manner that even a lay man can access the light console.
- 24. Light Console is to be installed in the console room.
- 25. Proper marking over the console is to done to manage lights.

26.Integration and Documentation for installed lighting devise (Hard and Soft copy).

- 27. Any other additional item/service required completing the Supply, Installation and commissioning of Digital Lights at Auditorium and cable laying work of auditorium is to be provided by the working agency.
- 28. Work will be verified by designated IIITApersonnel and certified by working agency.
- 29. Onsite warranty of the installation and supplied items during the warranty period.
- 32. Lights to be installed on celling, side ladder, and front of stage.
- 33. Electrical /installation drawing is to be provided by the supplier.

34. Joint venture or consortium will not be accepted.

32. During First year of installation free operational/service visit within 3 to 4 hr as per collage need is to be provided. At least Operation of 5 events will be done under their supervision by the agency after installation.

33.NO first copy or pirated supply is accepted only OEM manufactured goods will only be accepted with OEM certificate.

- 34. Channel Partner Authorization certificate from the supplied company is to be provided.
- 35. The supply company must have local service center or office with in the Allahabad region

#### **Important Note:**

- 1. Interested agencies may visit the site before quoting their rate.
- 2. There should not be any hanging or uncovered wire.
- 3. Repair/Refurnishing work owing to damage caused due to cabling or any other work related to this project shall be borne by working agency.
- 4. Equipment furnished shall be complete in every respect with all mountings, fittings, fixtures and standard accessories normally provided with such equipment's and/or needed for erection, completion and safe operation of the equipment's as required by applicable codes though they may not have been specifically detailed in the tender document, unless included in the list of exclusions. All similar standard components/parts of similar standard equipment's provided shall be inter-changeable with one another.
- 6. The bidder shall also be responsible for deputing qualified personnel for installation, testing, commissioning and other services within the scope of work as per this specification. All required tools and services for completing the work as per the specification is also the responsibility of the bidder.
- 7. The bidder should ensure that during installation of this light, day-to-day functioning of official work and existing setup/connectivity should not be disrupted.
- 8. Powering on equipment after ensuring correctness of terminations interfaces and power supply and making the system ready for testing and commissioning.
- 9. Testing of Cables after laying, terminations and ferruling at both the ends. All testing tools and instruments shall be brought by the bidder and taken back after the testing.
- 10. Site acceptance tests to establish satisfactory performance of the equipment's as per specifications.
- 11. Assistance for familiarization and operation of the installed system & services for 6 months after acceptance of system.
- 12. Onsite warranty for all Installation and Hardware delivered for minimum one year (Higher if exclusively asked) and extended as per OEM guarantee/warranty offered.

#### Annexure-V

### **Bill of Quantity**

(To be attached with technical bid)

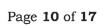
Sr no.	Particular	Brand	Qty.
	LED 3W x 60 LED heavy duty 3-IN-1		
	Control channel 8 DMX 512 channels. Sound		
	control. Aluminum cabinet.		
	With redundancy mode (master /slave mode). (As		
1	per Annexure-VIII)	PR/BD/SGM	50
2	DMX Splitter 8x1). (As per Annexure-IX)	Raytech/PR/BD	1
	Digital Light controller with Case (As per Annexure-		
3	X)	Raytech/MMS/BD	1
4	DMX Pilot (As per Annexure-XI)	Raytech/MMS/BD	1
_	DW 11 100 W	Falcon	10111
5	DMX cable100 Mtr	/Beldon/Kramer	10 bundles
6	3 Core Copper wire (100 Mtr.)	Havells/Anchor/RR	4 bundles
7	Clamps for LED par	MMS/ Custom Made	50

Installation, wiring, patching, programming of Digital Lights and accessories as per scope of work

US

Signature of the tenderer

Seal of the firm



### Annexure-VI

## **Technical Compliance**

(To be attached with technical bid)

#### (1) LED PAR 60 x 3w heavy duty

		Compliance	
Sr.NO.	Specifications	(Yes/No)	Deviation if any
	Item description: led, light (3 w * 60)		
1.	Operation mode: automatic, acoustic,		
2.	Support: DMX 512		
3.	master-slave synchronization		
	Rated voltage: AC100V - 240 - v, 50/60 hz Rated power: 164 w		
4.	Total power: 200 w		
5.	Number of lights: 60 3w led (three in one)		
	DMX access way: 8 DMX channels Control mode: walk, master-		
6.	slave, DMX		
	Working environment: indoor 20 â,, f and 40 â,, f Waterproof		
7.	level: IP20 Heather: R, G, B, W mix a variety of colors of 4.8 kg.		
8.	Should have heavy duty power supply.		

#### (2) DMX SPLLITER 8X1

1035	3/	
W		

		Compliance	Deviation if any
Sr.NO.	Specifications	(Yes/No)	
	DMX Should have input terminate switch and "Through" output		
1	for looping to additional splitters.		
-	Each output should electrically and optically isolated from the		
2	input, and from every other output by optical couplers.		
	Outputs should be filtered and protected against noise and		
3	transients.		
4	Each output should have Power and digital status LED indicator.		
5	Compliance: USITT standardDMS8 SPLITTER		

### (3) LIGHT CONTROLLER

		Compliance	Deviation if any
		(Yes/No)	
Sr.NO.	Specifications		
	Controller should have capability of grouping 72 channels of lighting	00	
1.	on a single fader		
2.	Should make 54 groups of 72 channels each.		
	Should enables us to programme our full show during rehearsal		
	even off line before the actual show enabling us to save all our scene		
	and just play them back by sliding one fader, saving you considerable		
	time and effort.		
3.	the second of the second of		
4.	Light controller with 72 channel DMX and 18 channel analog output.		
	Fully programmable non-volatile EEROM memory 8 pin connectors		
	for 18 analog outputs Smooth ALPHA faders Fully isolated DMX		
5.	output.		
	Group/patch multiple lights on a single fader Stage controller with 72		
6.	channel DMX	<u></u>	
	Should have 18 channel analog output 72 channel, 54 presets allow		
	you to program,		
	group and matrix all your lighting before reaching the venue 4 groups		
7.	of 18 channels.		
	Should have Fully programmable 3 banks of 18 presets Individual		
	flash buttons non-volatile EEROM memory LCD display for all		
8.	parameters and		
9.	menu 10 pattern sequence in 6 channel groups 8 pin connectors		
	for 18 analog outputs Smooth ALPHA faders Fully, isolated DMX		
10.	output		

## (4) PILOT

		Compliance	Deviation if any
Sr.NO.	Specifications	(Yes/No)	
1	Should have 10 programmable executor buttons		
4	Universal DMX-512 controller able to control upto 40 units		40
5	Each unit with maximum of 36 channels. Total of 512 DMX channels		الاله
6	Should be Able to control dimmer pack with maximum of 192 channels		
7	Should have 40 programs or chases, m chases, presets each program chase		
8	Should be Able to use 4 programs.4 chases, 4 m chases, 4 presets at same time		
9	Should have Internal unit library, able to create new unit library in controller		

#### Annexure-VII

## Financial Bid

## (On letter head of the Firm & in a separately sealed envelope)

Sr no.	Specification	Make/Model	Qty.	Per Unit	Total Amt.
	LED 3W x 60 LED heavy duty 3-IN-1				
	Control channel 8 DMX 512				
	channels. Sound control. Aluminum cabinet.				
	With redundancy mode (master /slave mode). (Specification as per				
1	Annexure - VIII)	PR/BD/SGM	50		
	DMX Splitter 8x1). (Specification as				
2	per Annexure -IX)	Raytech/PR/BD	11		
	Digital Light controller).				
3	(Specification as per Annexure -X)	Raytech/MMS/BD	1		
	DMX Pilot). (Specification as per		123		
4	Annexure -XI)	Raytech/MMS/BD	71		
	DMX cable 100 Mtr). (Specification as	Falcon	10		
5	per Annexure - )	/Beldon/Kramer	bundles		
		Havells/Anchor/R	4		
6	3 Core Copper wire	R	bundles		
7	Clamps for LED par	MMS/ Custom Made	50		
Inst	allation, wiring, patching, progra	amming and acces	ssories		
			Total		
		Taxe	es if any-		
		I	Vet Total		

Signature of the tenderer

Seal of the firm

## **Annexure-VIII**

#### LED PAR 60 x 3w heavy duty

Sr.NO.	Specifications
	Item description: led, light (3 w * 60)
1	Operation mode: automatic, acoustic,
2	Support: DMX 512
3	master-slave synchronization
4	Rated voltage: AC100V - 240 - v, 50/60 hz Rated power: 164 w Total power: 200 w
5	Number of lights: 60 3w led (three in one)
6	DMX access way: 8 DMX channels Control mode: walk, master-slave, DMX
	Working environment: indoor 20 â, f and 40 â, f Waterproof level: IP20 Heather: R, G, B, W
7	mix a variety of colors of 4.8 kg.
8	Should have heavy duty power supply.
	Item description: led, light (3 w * 60)
9	Operation mode: automatic, acoustic,



### Annexure-IX

#### **DMX SPLLITER 8X1**

Sr.NO.	Specifications
	DMX Should have input terminate switch and "Through" output for looping to additional
1	splitters.
	Each output should electrically and optically isolated from the input, and from every other
2	output by optical couplers.
3	Outputs should be filtered and protected against noise and transients.
4	Each output should have Power and digital status LED indicator.
5	Compliance: USITT standardDMS8 SPLITTER

### Annexure-X

#### LIGHT CONTROLLER

Sr.NO.	Specifications					
1.	Controller should have capability of grouping 72 channels of lighting on a single fader					
2.	Should make 54 groups of 72 channels each.					
	Should enables us to programme our full show during rehearsal					
	even off line before the actual show enabling us to save all our scene and just play them back by					
	sliding one fader, saving you considerable time and effort.					
3.						

4.	Light controller with 72 channel DMX and 18 channel analog output.						
	Fully programmable non-volatile EEROM memory 8 pin connectors for 18 analog outputs Smooth						
5.	ALPHA faders Fully isolated DMX output.						
6.	Group/patch multiple lights on a single fader Stage controller with 72 channel DMX						
	Should have 18 channel analog output 72 channel, 54 presets allow you to program,						
7.	group and matrix all your lighting before reaching the venue 4 groups of 18 channels.						
	Should have Fully programmable 3 banks of 18 presets Individual flash buttons non-volatile EEROM						
	memory LCD display for all parameters and						
8.	menu 10 pattern sequence in 6 channel groups 8 pin connectors						
9.	for 18 analog outputs Smooth ALPHA faders Fully, isolated DMX output						
10.	Controller should have capability of grouping 72 channels of lighting on a single fader						

## Annexure-XI

#### **PILOT**

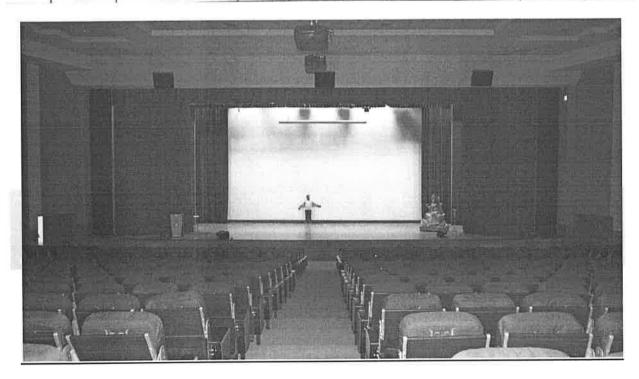
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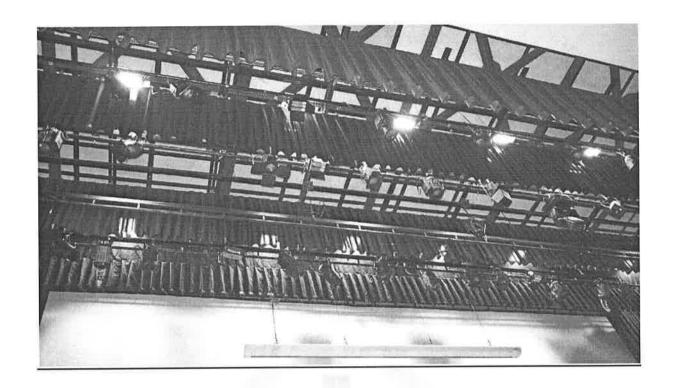
Sr.NO.	Specifications					
1	Should have 10 programmable executor buttons					
2	Universal DMX-512 controller able to control upto 40 units					
3	Each unit with maximum of 36 channels. Total of 512 DMX channels					
4	Should be Able to control dimmer pack with maximum of 192 channels					
5	Should have 40 programs or chases, m chases, presets each program chase					
6	Should be Able to use 4 programs.4 chases, 4 m chases, 4 presets at same time					
7	Should have Internal unit library, able to create new unit library in controller					
8	Should have 10 programmable executor buttons					
9	Universal DMX-512 controller able to control upto 40 units					

# Annexure-XII

## Description of Lights to be Augmented

SL, NO.	SYMBOL	DESCRIPTION	LB#1	LB#2	LB#3	CYC. BAR	LADDER	FOH	TOTAL QTY.
1,		Fresnal	2 Nos.	2 Nos.	2 Nos.		LIGHT 2 Nos.		10 Nos.
2.		Profile	2 Nos.	2 Nos.	2 Nos.	***		-	6 Nos.
3.		PC Light 2000W	***	:***	***		000	4 Nos.	4 Nos.
4.		Halogen	2 Nos.	2 Nos.	2 Nos.		p.00		6 Nos.
5.	•	PC Light 1000 W	2 Nos.	2 Nos.	2 Nos.	440	4 Nos.	***	10 Nos
6.	$\Box$	Par Light	4 Nos.	4 Nos.	4 Nos.	1239	4 Nos.	4 Nos.	20 Noe
7.		Moving Head	1 No.	***	444	·	***	***	1 No.
8.	4	Cyc. Light		***		12 Nos.	***		12 No
9.	0	24V/250W Scanner		***	2 Nos.		***		2 Not





uss