



**MADURAI KAMARAJ UNIVERSITY**  
**(University with Potential for Excellence)**  
**Madurai – 625 021 – TAMILNADU, INDIA**



**GLOBAL TENDER NOTIFICATION**

**Ref: No.EMRC/MKU/TENDER-2/2017-2018**

Sealed Tenders are invited for the supply and installation of  
(I) Professional Broadcast Video and other Equipments.  
(II) 125 KVA Genset

Tender document and other details can be downloaded from **1. [www.mkuniversity.org](http://www.mkuniversity.org)**  
**2. [www.tenders.tn.gov.in](http://www.tenders.tn.gov.in)**

The cost of tender document : Rs.2,950/- (Rs.2500+Rs.450 GST)  
Last date for submission of the tender : 16.04.2018 Time: 10.30 a.m.  
Opening of Technical Bid : 16.04.2018 Time: 4.00 p.m.

**Dr.V.Chinniah**  
**Registrar**

Date: 14.03.2018

Place: Madurai – 625 021.

Phone No.: 0452-2459455,0452-2459148 ; Fax : 0452-2459181,0452-2459145

Cost Rs.2950/- (Rs.2500+450 GST)

**TENDER FORM**

**Reference No:                      Technical Bid**

Date: .....

Description of Item: **SUPPLY AND INSTALLATION OF PROFESSIONAL BROADCAST VIDEO AND OTHER EQUIPMENTS**

Consignee:    The Registrar, Madurai Kamaraj University, Madurai-625 021, Tamilnadu, India : Attn: The Director, EMRC, Madurai Kamaraj University, Madurai-625 021.

Place of Commissioning: EMRC, Madurai Kamaraj University, Madurai-625 021, Tamilnadu, India

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F.No:

From

M/s. ....

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**To**

**The Registrar,  
Madurai Kamaraj University,  
Madurai – 625 021, Tamilnadu, India.**

Sir,

With reference to your Global Tender Notice dated ....., we offer our technical and commercial bid for the supply and installation of the following professional video equipment:

I)

Sl.No.	Name of equipment	Quantity
1	2/3" Camcorder with lens and accessories	1set
2	HDI/SDI Video Production Switcher	1 set
3	MPEG4 Encoder & Decoder	1 set
4	The Professional Rack 42UX600x1000	1 no
5	MDU of 14 sockets	2 nos

II)

Sl.No.	Name of equipment	Quantity
1	Genset	125 kv silent

**N.B.:** If required, separate sheets may be added to give more technical details of equipments details. These should be on the letter heads of tenderer duly stamped and signed.

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Sl. No.	Details of Payment	D.D. No. & Date	Name of the Bank & Place	Amount Rs.
1.	Cost of Application			2950/-(2500+450 GST)
2.	EMD			1% of the Tender value

**II) For Generator**

Sl. No.	Details of Payment	D.D. No. & Date	Name of the Bank & Place	Amount Rs.
1.	Cost of Application			2950/-(2500+450 GST)
2.	EMD			Rs.7142 and GST 18% (CGST-9% and SGST – 9%)

**Note: The Demand Draft for cost of application and EMD should be enclosed with Technical Bid cover.**

Authorized Signatory \*

Name:

Designation:

(\* Authorized signatory should be the same at all places in the Tender/Offer)

**TENDER FORM – COMMERCIAL BID**

**FOR THE SUPPLY OF PROFESSIONAL BROADCAST VIDEO AND OTHER  
EQUIPMENTS**

Name of the Company/Firm :

Address :

Phone/Fax Numbers/E-mail ID :

Name of Indian representative :

Address :

Phone/Fax Numbers/E-mail ID :

Price of the system conforming to  
required specifications :

(Prices of the main system and of different accessories must be quoted separately; insurance and air-freight charges upto Madurai, Tamilnadu should be mentioned, warranty period should be mentioned)

Date:

Signature with seal of the authorized person of the Firm

# I

## 1) Specifications for SD / HD switchable Tapeless Camcorder (To support existing optical Disk format work flow)

Digital camcorder system should conform to HDTV 1920x1080/50/I (16:9 aspect ratio) conforming to SMPTE 292M and ITU 709 (CIF) HD-SDI: 1.485 Gb/s and SDTV 625/50 (4:3 aspect ratio) conforming to SMPTE 259M and ITU 601 SDI: 270 Mb/s. Both the signals should have 4:2:2 sampling and 10 bit quantization and embedded audio. The recording should be on a tape less medium of 50 GB or better & capable of recording @ 25 & 50Mbps with all the required standard accessories and optional accessories as needed to enhance the performance of equipment to the optimum level.

The basic specifications are as follows: -

<b>General Specifications</b>	<b>Detail:</b>
Power Requirements	DC 12 V +5.0 V/-1.0 V
Video Recording Format	MPEG HD422 (MPEG-2 422P@HL) (CBR: 50 Mb/s) MPEG HD (MPEG-2 MP@HL): HQ mode (VBR, maximum bit rate: 35 Mb/s) SP mode (CBR, 25 Mb/s) LP mode (VBR, maximum bit rate: 18 Mb/s) (Playback only) MPEG IMX (MPEG-2 422P@ML) (50/40/30 Mb/s) DVCAM (CBR,25 Mb/s)
Proxy Video	MPEG-4  DVCAM 25 Mb/s: Approx. 185 min. (PFD50DLA), Approx. 85 min. (PFD23A)
<b>Inputs/Outputs Specifications</b>	<b>Detail:</b>
Genlock In	BNC x1, 1.0 Vp-p, 75 Ω
TC IN	BNC x1, 0.5 to 18 Vp-p, 10 kΩ
SDI IN	BNC x 1 (HD/SD switchable) HD-SDI: SMPTE 292M (w/embedded audio) SD-SDI: SMPTE 259M (w/embedded audio)
Audio In	CH-1/CH-2: XLR 3-pin (female) x 2, line/mic/mic +48 V selectable
AES/EBU Input	CH-1/CH-2: XLR 3-pin (female) x 2, AES/EBU selectable
MIC In	XLR 5-pin (female, stereo) x 1
Test Out	BNC x 1 (switchable) HD Y/SD composite SD composite (character On/Off)
SDI Out	BNC x 2 1 (HD/SD switchable) HD-SDI: SMPTE 292M (w/embedded audio) SD-SDI: SMPTE 259M (w/embedded audio) 2 (HD/SD switchable, character On/Off)
Audio Out	CH-1/CH-2: XLR 5-pin (male, stereo) x 1
TC Out	BNC x 1, 1.0 Vp-p, 75 Ω
Earphone	Mini-jack x 2 (front: monaural, rear: stereo/monaural)
Monitor Speaker	YES

DC In	XLR 4-pin (male) x 1, 11 to 17 V
DC Out	4-pin (Female) (for wireless microphone receiver), 11 to 17 V DC, MAX. 500 mA
Lens Connector	12-pin
Remote	8-pin
Light	2-pin, DC 12 V, max. 50 W
Camera Adaptor	50-pin
i.Link	IEEE 1394, 6 pin x 1, File Access Mode
Memory Stick	x 1 (for camera setup files)
Gigabit Ethernet	RJ-45 x 1, 100Base-Tx: IEEE802.3u, 10Base-T: IEEE802.3
USB	x 1 (for version-up)

### Audio Performance Specifications

#### Detail:

Frequency Response	20 Hz to 20 kHz, +0.5/-1.0 dB
Dynamic Range	More than 93 dB
Distortion	Less than 0.08% (at 1 kHz, reference level)
Crosstalk	Less than -70 dB (at 1 kHz, reference level)
Wow & Flutter	Below measurable limit
Headroom	20/18/16/12 dB (selectable)

### Camera Section Specifications

#### Detail:

Pickup Device	3-chip 2/3-inch type CCD / CMOS
Effective Picture Elements	1920(H) x 1080(V)
Optical System	F1.4 prism
Built-In Optical Filters	1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND A: CROSS, B: 3200K, C: 4300K, D: 6300K
Shutter Speed (Time)	1080/59.94i: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS 1080/50i: 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS 1080/29.97P: 1/40, 1/60, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS 1080/25p: 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS 1080/23.98p: 1/32,1/48, 1/50,1/60,1/96, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS 720/23.98p( pull down) : 1/32,1/48, 1/50,1/60,1/96, 1/125, 1/250, 1/500, 1/1000, 1/2000,ECS,SLS
Slow Shutter	1- to 8- and 16-frame accumulation
Sensitivity (2000 lx, 89.9% reflectance)	F11 @ 59.94i, F12 @ 50i (typical)
Minimum Illumination	Approx. 0.016 lx (F1.4 lens, +42 dB, with 16-frame accumulation)
Gain Selection	-6, -3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42 dB
Smear Level	-135 dB (typical)
S/N Ratio	59 dB (54 dB w/o Noise Suppressor)
Horizontal Resolution	1000 TV lines or more (1920 x 1080i mode)
Registration	Less than 0.02%
Modulation Depth	45% or more at 27.5MHz

### Monitoring Specifications

#### Detail:

Viewfinder	Option
Built-In LCD Monitor	3.5-inch type color LCD monitor

### Lens Specifications

#### Detail:

Lens Mount	2/3-inch type bayonet mount
Lens Mount	2/3-inch-type 48 bayonet mount
Lens	Standard Zoom Lens with 22x zoom and 2x extender

## 2. Specifications for HDI/SDI Video Production Switcher

<b>Processor Specifications</b>
<b>VIDEO INPUT/OUTPUT</b>
Video – Input: Minimum 08 Input conforming to SMPTE292M (HDTV), SMPTE 259 M-C (SDTV) digital Signal.
Reference Input : SDTV Analog black burst/Analog sync, HD Tri-level sync on 75 Ohm.
Video Output : Minimum 04 no. of outputs conforming to SMPTE292M (HDTV), SMPTE 259 M-C (SDTV) digital Signal.
Reference Output with loop through: SDTV Analog black burst/Analog sync, HD Tri-level sync on 75 Ohm
<b>AUDIO INPUT/OUTPUT</b>
Audio input:- XLR: 4 Set (L & R),SDI (BNC)(Embedded Audio):4 Sets,HDMI embedded Audio 2 Sets,1 Pin Jack Aux Input ,1 Microphone Input.
Audio Output:- PGM 1 XLR (L&R), SDI Embedded Audio1PGM .1 PVW & 1 AUX Output,1 Headphone Output.
<b>CONTROL</b>
Remote – D-sub 9 pin
Tally/GPI - D Type or BNC
Serial tally – D-sub 9 pin
<b>System Specifications</b>
HD Mode : HD(1080/59.94i,1080/50i,720/59.94p,720/50p),
SD Mode :SD(480/59.94i,576/50i)

- Having Built in Audio Mixer and Frame Synchronizer.
- Having quantization 16 bit for HDMI Input,24 Bit for SDI Input,20 bit for analog input.
- Having a Built in Multiviewer.

### **3. MPEG 4 Encoder & Decoder**

#### **ENCODER**

The encoder should support either SD/HD video formats in a key-enabled architecture. Video input should be SDI or HD-SDI. It should provide a reduced-resolution compressed stream output. It should support up to three stereo pairs of audio.

The basic specifications are as follows: -

#### **Video**

##### **HD-SDI High-Definition:**

<b>Digital Video Input Formats</b>	<b>Sample x Lines @ Rate</b>	<b>Standard</b>
1080i 30	1920x1080 @ 30/1.001 Hz	SMPTE 292M-1998, Table 1 Column E
1080i 25	1920x1080 @ 25 Hz	SMPTE 292M-1998, Table 1 Column F
720p 60	1280x720 @ 60/1.001 Hz	SMPTE 292M-1998, Table 1 Column M
Input Line Rate(s)	1.485 Gb/s and 1.485/1.001	

##### **SDI Standard-Definition Digital Video Input Formats**

480 and 525-Line Resolutions	720x480, 720x525
Formats	ANSI / SMPTE 259M-C 1997
Input Line Rate	270 Mb/s

##### **Physical Interface**

Jitter Tolerance	Meets SMPTE RP184 specifications
Sampling	8-bit
Connectors	75 ohm BNC

##### **Video Compression**

Standard	MPEG-4 Part 10 / H.264 / ISO/IEC 14496-10 2003
Profile and Level	Supports main profile at Level 4.0-compatible decoders
HD Horizontal Resolutions	1080i: 1920, 1440, 1280, 960 720p: 1280, 960, 640
SD Horizontal Resolutions	480i: 720, 704, 640, 544, 528, 480, 352 576i: 720, 704, 640, 544, 528, 480, 352
Anchor Frames	2
Macro Block Processing	In-loop de-blocking
Coding	CABAC
Compressed Output (to backplane) Bitrates	0 25-20.0 Mb/s
PIP Resolutions	96 x 96 and 192 x 192 pixels

<b>VBI Input Formats</b>	<b>VBI Standard</b>	<b>MPEG Carriage Standard</b>
Closed Captions	EIA-608	EIA-708 and ETSI EN 301 775



Vertical Interval Time Code	SMPTE 12M	SMPTE 266M ISO/IEC 13818-(GOP Header)
WST Teletext	ETSI EN 300 706	ETSI EN 301 775 and ETSI EN 300 472
Wide Screen Signaling	ETSI EN 300 294	ETSI EN 301 775
Lossless Luma (six lines max )	—	ETSI EN 301 775
Prestored Test Patterns	Various	Proprietary

### **Audio Specifications**

#### **Digital Audio Input**

Format	AES (AES3-1992, ANSI S4.40-1992), SMPTE 276M	
Sampling	Synchronized to video and re-sampled to 48 kHz at 24 bits	
Connectors	75 ohm BNC	

### **Audio Compression and SMPTE 302 Audio Handling**

#### **Audio Compression Standards**

Surround Sound	AAC-LC 5.1, HE-AAC 5.1	
3-Channel (3 stereo pairs)	Dolby® AC-3 2.0, MPEG-1 Layer 2, SMPTE 302M, AAC-LC 2.0, and HE-AAC 2.0	
Compressed Audio Bitrates	32-640 kb/s, and 2.8, 2.4, 2.0 Mb/s (standard-dependent)	

## **GENERAL SPECIFICATIONS**

### **Systems Multiplex**

Ad insertion / Splice point signaling	SCTE 104/SCTE 35
Format	MPEG-2 transport stream
PSI formats	ISO (IEC 13818.1 MPEG-2 systems)
Encryption	BISS-1, BISS-E (EBU Tech 3292 rev. 2)
Jitter	< 1 ms of multiplex jitter < 500 ns PCR jitter

## **DECODER**

It should have DVB-S/S2 demodulation capabilities and inputs for DVB-ASI and IP as standard feature. It should support MPEG-2 and H.264 video compression; from the 4:2:2 format to SD and HD formats; as well as MPEG, Dolby® Digital AAC and SMPTE-302 audio systems. It should support vertical ancillary data space (VANC) transport, wide-screen signalling (WSS), active format description (AFD) and other related data signals, as well as DVB fixed-key decryption (BISS) and DVB Common Interface (DVB-CI) descrambling methods.

## **FEATURES**

- Bitstream Input/Output Capabilities
  - DVB-S, DVB-S2 satellite demodulator (standard)
  - Advanced RF demodulator (option) for 16/32 QAM and DSNG
  - DVB-ASI input and output (standard)
  - Dual IP SMPTE 2022-1 inputs and outputs (standard)
  - DVB fixed-key (BISS) decryption (standard)
  - DVB common interface module slot (option)
  - Smart PID filtering to output selected streams on ASI or IP
- Video Compression Formats

- MPEG-2 MP@ML, MP@HL (standard)
- MPEG-2 422P@ML, 422P@HL (option)
- H.264 MP@L3, MP@L4.1 (standard)
- H.264 422P@L3, 422P@L4.1 [8-bit] (option)
- Audio Compression Formats
  - AAC-LC, HE-AAC v2 2.0 and 5.1 decode (standard)
  - MPEG-1 Layer II decode (standard)
  - Dolby® Digital (AC-3) 2.0 and 5.1 decode (standard)
  - SMPTE-302 PCM and Dolby® E pass-through with AVTrack™ (standard)
  - One or two Dolby® E integrated decoders (option)
- Data/Ancillary Capabilities (standard)
  - VANC processing
  - AFD and WSS
  - Teletext
  - VBI
- Video/Audio Output Capabilities
  - Dual SDI/HDSI video outputs 1080i/720p/625i,50
  - Eight stereo pairs of assignable embedded audio
  - Four assignable separate AES outputs

## Receiver

Connectors	F-Type (up to 4)
Input Impedance	75 ohms
Baud Rate Range	2 to 45 Mbaud (DVB-S/DSNG), 10 to 30 Mbaud (DVB-S2)
Modulation	QPSK (DVB-S), QPSK/8 PSK/16 APSK (DVB-S2) QOSK/8 PSK (DVB-DSNG/S)
Inner Code:	
DVB-S	QPSK 1/2, 2/3, 3/4, 5/6, 6/7, 7/8 8 PSK 2/3, 5/6, 8/9 16 QAM 3/4, 7/8
DVB-S2	QPSK 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 8 PSK 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16 APSK 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32 APSK 3/4, 4/5, 5/6, 8/9, 9/10
DVB-DSNG	QPSK 1/2, 2/3, 3/4, 5/6, 6/7, 7/8 8 PSK 2/3, 5/6, 8/9 16 QAM 3/4, 7/8
Outer Code	204, 188 Reed-Solomon per EN 300 421
L-Band Frequency Range	0.9400 to 1.7500 GHz (In 0.0005 GHz steps)
Maximum Total Input Power	-25 dBm
Minimum Signal Level	-55 dBm

## Video Output: Serial Digital Interface

Standard	HD-SDI and SDI (SMPTE 292M/259)
Connector	BNC (2)
Formats	1080i/50, 720p/50

## MPEG-2 and H.264 Video Decoding

MPEG-2 Profiles	Main profile at main level (NTSC/PAL) Main profile at high level (HD)
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H.264 Profiles	4:2:2 profile at main level (SD) 4:2:2 profile at high level (HD) Main profile at level 3.1 High profile at level 4.2 (Broadcast HD) 4:2:2 profile at level 4.2 (8-bit only)
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Maximum Video Elementary Stream Bitrate	108 Mb/s
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### **Audio**

Bitstream Decoding Formats Supported	Dolby® Digital AC-3 2.0 Dolby® Digital AC-3 5.1 MPEG-1 layer 2 SMPTE 302M (Dolby® E compatible), IEC 958 Dolby® E integrated decode (optional) Advanced audio coding low complexity (AAC-LC) 2.0 and 5.1 High-efficiency AAC version 1 (2.0) and version 2 (HE-AAC v2 2.0) HE-AAC 5.1
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Digital Audio Output Format	AES/EBU as per SMPTE 276 Embedded as per SMPTE 299 Pass through encoding audio (SMPTE 337) with no restrictions
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### **Reference Input**

Type	Blackburst composite video
Reference Connector Standard	BNC with passive loop through SMPTE RP 154

### **Control LAN Interfaces**

Type	10/100Base-T Ethernet (IEEE 802.1)
Connector	RJ45

### **Transport Stream Interface**

Connector	2 BNCs (1 in/1 out) and 2 RJ45 (bi-directional)
Physical Layer Interface	DVB-ASI (auto-sensing)
DVB-ASI Transport Stream Data Rate	0.0 to 214.0 Mb/s
IP Transport Stream Data Rate	0.0 to 120.0 Mb/s
IP over Ethernet FEC	10/100/1000Base-T Ethernet (IEEE 802.1) SMPTE 2022

## II.

### **TENDER CONDITIONS AND INSTRUCTIONS FOR SUPPLYING 1 NO. OF 125 KVA / 433 V DGSET**

#### 1. Qualification Criteria.

The tenderer should be a Generator Manufacturer or an Authorised Dealer with experience in similar type of work for the past 2 years in Government departments. The tenderer should produce copies of certificates or documentary evidences duly attested by Notary public or Gazetted officer in support of Manufacture or an Authorised Dealer and experience.

#### 2. Earnest money Deposit.

The tenderer should furnish a sum of Rs. 7142/- (Rupees seven thousand one hundred and forty two only) and GST 18% (CGST-9% AND SGST – 9%) for that amount towards EMD. The EMD amount should be remitted through SBI in Madurai Kamaraj University Account No:4 (GST should be remitted separately – for CGST—DPC 0005-00-101-AA-0000 AND SGST-DPC 0006-00-101-AA-0000). The tender will be rejected summarily if EMD other than the above form is furnished. Also, the tender without EMD will be summarily rejected.

3. Copies of latest Sales Tax Registration certificate with TIN No latest Sales Tax verification certificate and latest Income Tax return form filed with PAN No. duly attested by Notary Public (or) Gazetted Officer should be enclosed along with the tender.

#### 4. Security Deposit.

The successful tenderer should furnish a security Deposit at 2% of the contract value including EMD.

#### 5. Validity.

The tender should be valid for 90 days from the date of opening of tender.

#### 6. Additional Security Deposit:

On evaluation of tender if it is found that if the overall quoted amount of the tender is less than 5 to 15% of the value put to tender, the contractor should pay an additional Security at 2% of the quoted value. If the tender discount exceeds 15% to 20%, the contractor should pay an additional security deposit at 50% of the difference between the quoted amount and estimated amount. Failure to furnish the additional Security Deposit within 15 days from the date of receipt of acceptance order and execute the contract (Sign the agreement) shall entitle cancellation of award of contract and forfeiture of EMD furnished.

#### 7. TERMS OF PAYMENT:

The payment will be made as follows.

- a). 85% of the value of the equipments will be paid on receipt of at equipments site in good condition.
- b). Balance amount after retaining 5% value of contractor will be made on completion of work (i.e) erection commissioning, testing and handing over of the Generator set in satisfactory working condition to the user Department by the firm.
- c). The with held amount of 5% of the contract value will be recovered in bill of payment. The with held amount of 5% along with Security Deposit at 2% of the contract value will be released after one year on successful expiry of the Guarantee period, after ascertaining satisfactory

performance of the generator set in the form of Government Cheque as per the rules prevailing at that time.

- d). Sales Taxes on works contract and Income Tax will be deducted in each and every bill if required, as per rules in force.

## 8.GUARANTEE

The Generator set should be guaranteed at least for a period of **one year** from the date of handing over of the Generator set against any manufacturing defect or bad workmanship. Free servicing should be provided every month and break down calls should be attended at free of cost during guarantee period. If at any time during the Guarantee period, the generator set is out of order for more than 2 months at a time, then the guarantee period will be extended by the period from the date of Generator set went out of order to the date when it was recommissioned. The Guarantee will commence only from the date of handing over the Generator set to the user Department.

9. The tenderers are requested to go through the Tender Schedule, Tender conditions and instructions carefully and then Quote. Tender for a portion of work will not be considered and tender must be in full conformity with these specifications with out any deviation. If the tenderers wish they may submit any number of alternative offer with complete details.
10. The tenders are advised to inspect the site at their own cost before offering their tenders. The requirement of concrete bed for the installation of Diesel Generator set should be provided by the tenderer. Any piecemeal requirement will not be entertained during the execution of the work.
11. The tender schedule with the tender conditions to tenderer (which are purchased) should be duly filled in, signed and should be returned along with details. The rates in the tender should be written in words also. Corrections if any should be attested with dated initials.
12. The tender should be given in sealed cover subscribing the Name of work and the tender due date. Unsealed cover will not be opened and will not be considered.
13. If the last date fixed for opening of tender is suddenly declared as Government holyday the opening date is deemed to be extended upto the following working day.
14. Conditional tender will be summarily rejected any tender clarification affecting the price structure, after tender opening will not be considered.
15. The engine shall conform to BSS 5414/ IS 10000
16. Wherever the specifications not mentioned the materials specifications, factor of safety etc. of the components of the Generator set should conform to IS specifications.
17. The leaflet, literature and catalogues of the Generator set should be submitted along with the offer.
18. The tenderer should quote the rates clearly for all the items of supply, Labour etc. including the cost of unambiguous terms.

19. Price variation clause will not be Accepted. The price offered should be firm through out the contract period.

20. The rates offered should be inclusive of DG set, sound proof enclosure, AMF panel, packing, GST, Forwarding transit, insurance charges.

21. Unit rates should be furnished for measurable item like for earthing copper exhaust piping, cabling giving connection etc. The actual quantity used will be measured at the time of execution and the corresponding amount will be paid.

22. The department reserves the right to reject any or every tender received without assigning any reason.

23. The tenderer should not refer to the court of law for any dispute and the decision of department is final and binding.

24. Completion of work:

The accepted tenderer should complete the work of supply, erection, testing and handing over in conformity with tender schedule and general specification within the stipulated time from the date of receipt of order to proceed with the work or from the date of handing over the site.

25. The actual time required for supply, Installation, testing and handing over by the tenderer.

26. Necessary license if any required should be got and arranged for by the tenderer and the department will not take up any responsibility or recommendations for the permit etc.

27. The work should be carried out in cooperation with the occupying department.

28. Necessary drawings for the general arrangements of the Generator set and circuit diagram for the standard control panel should be prepared and got approved from the Chief Electrical inspector to Government authorities by the successful tenderer. The necessary CEIG inspection charges should also be borne by the tenderer.

29. The shortest delivery period and stock position should be Priorly stated. Delivery from ready stock will be preferred.

30. The goods should be insured at the cost of suppliers, Any loss or damage while in transit should be borne by the supplier.

31. The supplier should produce gate pass in original for the materials, supplied before making payment if necessary.

32. Period of completion:

The entire supply, erection commissioning, testing and handing over 1No. of 125 KVA / 433V /50hz Generator set should be completed in 30 days as detailed below.

- a. Supply: The Generator set should be supplied at the site within 30 days from the date of order date of conclusion of agreement/ date of approval of drawing whichever is later.
- b. The Generator set should be permanently erected, commissioned, and tested within 20 Days from the date of supply of Generator sets from the date of readiness of Generator rooms from the date availability of electrical supply whichever is later.

33. Supply of tools

One set of complete tool box should be provided by the tenderer.

- 34. Registrar, Madurai Kamaraj University, Madurai -21. will be arbitrator for any dispute arising out of this contract.
- 35. Extension of time will not be permitted and the entire work should be completed in all respects within the stipulated period from the date of receipt of order or from the date of handing over of the site.
- 36. The tender may be accepted as a whole or for any part and the quantities may at the discretion of the University Engineer be increased, decreased or omitted during execution.
- 37. The contractor should be present at the premises at the time of connecting the installation to the supply mains and should afford all facilities and testing and connecting up and commissioning.
- 38. The contractor engaging the labours for the work is wholly responsible for any accident or death occurring to the laborers while carrying out the work and the department shall not be responsible for the such occurrence and for the payment of compensation to the labours.
- 39. Tender received in time will alone be considered Telegraphic offer will not be considered.
- 40. Department will not take any responsibility for the delay/loss in transmit of the tender send by the post.
- 41. No representation or appeal of any kind will be allowed for belated receipt of tenders by post beyond the notified date or loss the transit etc.
- 42. The supplier should enclose the evidence about GST no :
- 43. TAX : GENERAL CONDITION OF CONTRACT.

The contractor shall be solely responsible for the payment of GST and other taxes as per the govt norms in addition to Tendered Rates due to any plea of subsequent levy increase in tax will be entertained vide also clause 32 (2) of general conditions to contract.

44. The extension of time required to complete the work should be obtained by indicating the reasons for the delay and any period not covered by extension of time will be treated as unauthenticated calling for penal action.
45. Proper evidence should be produced by the firm to satisfaction of the Registrar whenever force measure condition arise.
46. The tenderers who are expecting the Departmental Terms and conditions on EMD, security deposits, payment Guarantee, Free servicing, completion period, Arbitration clause, Penalty clause etc., above should quote for the tender call. The offer of the tendered who stipulate their own terms and conditions will summarily be rejected and such tenderers will be banned from quoting by not insuring the department tender schedule in future tender calls of department.

Signature of the  
contractor

Registrar  
Madurai Kamaraj University



## PROFORMA –I

- |     |   |                  |
|-----|---|------------------|
| 1.  | <b>Is the offer in conformity with the departmental specifications.<br/>(If not specify deviation details of components.)</b>   | <b>Yes or No</b> |
| 2   | <b>Make                      model No.</b>  |                  |
| 3.  | <b>Time required to deliver the equipment from the date of order (Note : the Generator set should be supplied with in 30 days from the date of tender)</b>  | <b>Days.</b>     |
| 4.  | <b>Time required for erection, testing, commissioning and handing over (note the erection, testing, commissioning should be completed with in 20 days from the date of supply of Generator set)</b> | <b>Days.</b>     |
| 5.  | <b>Is the tenderer applicable agreeable to furnish 2% security deposit against tenderer value</b>   | <b>Yes /No.</b>  |
| 6.  | <b>Is the price quoted is firm till the completion of the final testing</b>   | <b>Yes /No.</b>  |
| 7.  | <b>Whether the material will be delivered at the site at free of cost</b>   | <b>Yes /No.</b>  |
| 8.  | <b>Is the offer valid for 90 days.</b>  | <b>Yes/No.</b>   |
| 9.  | <b>Where the guarantee period offered is as per department requirement</b>  | <b>Yes /No.</b>  |
| 10. | <b>Is the tenderer agreeable for the departmental penalty clause.</b>   | <b>Yes /No.</b>  |
| 11. | <b>Is the tenderer agreeable for the training of the departmental personal</b>  | <b>Yes /No.</b>  |
| 12. | <b>Is the latest income tax verification certificate enclosed</b>   | <b>Yes /No.</b>  |

- |     |  |        |
|-----|--|--------|
| 13. | Is the previous experience certificate in this type of work enclosed                             | Yes/No |
| 14  | Is the price quoted is inclusive of all taxes and duties till the completion of the entire works | Yes/No |
| 15. | Is the foundation drawings for the creation of generator set enclosed                            | Yes/No |
| 16. | Is the tenderer furnished EMD as required by the department                                      | Yes/No |

Tenderer

### PROFORMA 11

#### TECHNICAL DETAILS OF GENERATOR SET

Sl . No	Generator set	Make
1.	<u>Diesel Engine</u>	
	a. Capacity in BHP	
	b.Make	
	c.Model	
	d. Rated output in BHP	
	e. RPM	
	f. Engine cooling system	
	g. No.of. cylinder	
	h. No.of strokes	

- i. Fuel tank capacity in Lit**
- j. Fuel consumption in lit on full load**
- k. Method of starting**
- l. Exhaust type**
- m. Safety control**

## **II Size of generator set**

- a.Length**
- b.Breadth**
- c.Height**
- d. Total weight**

## **III Alternator**

- a. Capacity in KVA /KW**
- b. Power factor**
- c. Phase(single/three)**
- d. Volts**
- e. Frequency**
- f. Full load current in amps.**
- g. No load speed in RPM**
- h. Full load speed in RPM**
- i. No load current**
- j. Type of battery**

**Make:**

**Model:**

**AH :**

**k. Class of insulation**

**IV Base Frame :**

**V Acoustic Enclosure :**

**VI Concrete bed for erection of generator:**

**VII Standard Control Panel**

- a) Voltmeter with selector switch :**
- b) Ammeter (Digital / Analog range) :**
- c) Frequency meter (Digital/ Analog resolution ) :**
- d) Indicating Lamp :**
- e) KWH meter:**
- f) KW meter :**
- g) ACB :**
- h) Earth fault relay**  
**(Minimum current required to operate) :**
- i ) Over load relay :**

**Tenderer**

**F.O.R : :**

**DELIVERY : :**

**PAYMENT : :**

**INSURANCE : :**

**WARRANTY : :**

**OTHER CONDITION :**

**SIGNATURE OF  
Tenderer**

**PRICE SCHEDULE**

**MAKE : :**

**PRICE : :**

**E.M.D : :**

**EDUCATION CESS : :**

**GST : :**

**TOTAL PRICE : :**

**SIGNATURE OF  
MANUFACTURER**

## MADURAI KAMARAJ UNIVERSITY

*(University with Potential for Excellence)*

### GENERAL INSTRUCTIONS, TERMS AND CONDITIONS

1. The tender schedule is not transferable and it should be used only by the tenderer to whom it is officially issued.
1. The tender documents can be downloaded from the University web site [1. www.mkuniversity.org](http://www.mkuniversity.org) [2. www.tenders.tn.gov.in](http://www.tenders.tn.gov.in) the document cost i.e. Rs.2,950/- (Rs.2500+Rs.450/- GST) must be made by the tenderer by way of crossed Demand Draft drawn in favour of The Registrar, Madurai Kamaraj University, Madurai 21 payable at Madurai along with tender submission document.
3. The tenderer has the option of sending the offer by Registered post or by Speed post or by courier so as to reach by the date and time indicated. **The last date for receipt of filled in tender document is 16.04.2018 at 10.30 a.m. and the Opening of the technical bid is 16.04.2018 at 4.00 p.m.** This University will not be responsible for any postal or other transit delay in receipt of the tender offer.
4. **A single stage, two-envelope (Technical Bid and Commercial Bid envelopes) bidding procedure will be followed.**
5. In addition to the hard copy of Technical Bid, soft copy shall also be submitted in a Compact Disc.
6. All Bids must be delivered at the office of Registrar, Madurai Kamaraj University not later than 10:30 a.m. on 16.04.2018. Technical Bids will be opened at 4.00 p.m. on 16.04.2018 in the presence of the Bidders' representatives who choose to attend. Names of Bidders together with the Nationality of manufacturers and suppliers and such other details as Madurai Kamaraj University, at its discretion, may consider appropriate, will be read out. Price Bids of those who qualify in Technical Bids will be opened at a later date, which will be informed to the qualified Bidders.
7. All the envelopes shall bear on the top left corner, Madurai Kamaraj University's Bid Document Number and also Bid Due Date, and on the bottom left corner, Bidder's name and address.
8. Telex /Fax or Telegraphic offers will not be entertained and will be rejected.
9. Only the tender document downloaded from the University website should be used and it should be resubmitted in full shape without detaching any page from it.  
  
Tenders in any forms other than the forms and schedules issued by the University to the tenderer will not be considered and will be rejected as non-responsive.
10. Each page of the tender document, including technical specifications, should be duly signed for having noted the contents of the document
11. Tenders will be liable to rejection
  - a. If the country of manufacture and of the origin of material used in manufacture of articles is not noted in the tender.

- b. If the tender is not in the form supplied by this Office or downloaded from the departmental website.
  - c. If the cost of the tender document is not accompanied if the same is down loaded from the web site.
  - d. If the tender is not accompanied by the receipt of Earnest Money
  - e. If the tenderer fails to fulfill the criteria laid down for evaluation of the “Technical cum Commercial bid” as mentioned in the Tender document
  - f. If samples of / models of articles quoted are not submitted as and when required for technical evaluation test
  - g. If the tenderer enters any restriction on other conditions in his tender.
  - h. If the tenderer enters one rate in figures and another in words and declines to abide by the lower of the two.
  - i. If the tenderer alters the period of supply or expunges any clause in the form of tender, and any delay in supply would invite a fee of 1% per week
  - j. If the tender is presented without signature.
  - k. The equipment mentioned in the tenders must meet all the technical specifications. Any item of the equipment not accompanied by the technical brochure printed by the original manufacturer will be dealt as not meeting the technical specifications
  - l. The tenders must meet all the requirements contained in this tender document
  - m. Authorization letter duly signed by the manufacturer in case of Authorized Dealer
  - n. In the event of violation / non-adherence to any other essential requirements mentioned elsewhere within this Tender document
12. The successful tenderer will be required to enter into a contract with the University regarding purchase.
13. The tender documents shall require all tenderers without exception to pay an Earnest Money Deposit ordinarily not exceeding **one per cent** of the value of the procurement by means of a Demand draft drawn in favour of the Registrar, Madurai Kamaraj University, Madurai-625 021 payable at Madurai for Professional Broadcast Equipment.
- i) The Earnest Money will be liable to be forfeited if the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
  - ii) If the successful tenderer fails to furnish the security deposit then the whole Earnest Money will be forfeited.
  - iii) The rate quoted should be valid for 120 days from the date of opening of the Tender.
14. The tender documents shall require that as a guarantee of the tenderer's performance of the contract, a **security deposit** be taken from the successful tenderer subject to the conditions that the amount of deposit not exceeding **five percent** of the value of the orders placed upto the warranty period.
15. Percentage of payment to be withheld for the effective performance of the contract, provided that withheld amounts do not exceed ten percent of the total value of contract.
16. The tender documents shall specify the period for which the tenderer should hold the prices offered in the tender valid.
17. The tender documents and the contract shall include a clause for payment of liquidated damages and penalty payable by the tenderer in the event of non-fulfilment of any or whole of the contract.

18. The tender documents shall clearly indicate the terms on which the tenderers will be required to quote their price which should be inclusive of all costs of delivery at the final destination such as transportation, payment of duties and taxes leviable, insurance and any incidental services and giving the break up thereof.
19. The tender documents shall clearly indicate the criteria in addition to price which are to be adopted for evaluating the tenders and how such criteria will be quantified or evaluated.
20. Only those firms should respond who are the manufacturers or authorized dealers. A certificate to this effect duly signed by the manufacturer with reference to this tender in respect of all items quoted in the tender should be attached by tenderer(s). A general authorization letter is not acceptable.
21. The cost must include the warranty maintenance for 5 years from the date of installation.
22. Complete address including Phone No., Fax No., E-mail address etc. may be furnished.
23. The Tender should remain valid for a period of six months from the date of the opening of tenders.
24. Only one authorized representative of the tenderer with proper authority letter may attend the opening of the Tender.
25. All documentation is required to be in English.
26. Incomplete tenders and amendments and additions to tender after opening will not be accepted.
27. Fail-safe procedure in detail under following conditions may be indicated in detail.
  - (a) Power failure
  - (b) Voltage variations

The equipment must be capable of withstanding power fluctuations and equipments should not be damaged due to '**trip outs**'. The normal voltage and frequency conditions available at the site
28. Tenderers should include in their tender provision for tools and initial stock of maintenance spares as are essential for proper operation and maintenance of the equipment. Full particulars of spare parts should be provided separately.
29. The successful tenderers shall warranty that spare parts for the system would be available for a minimum period of TEN (10) years after acceptance of the system/equipment. And thereafter before going out of production of the spare parts, he will give a notice prior to such discontinuation.
30. The supplier shall be responsible to obtain all export licenses for any other Govt. authorization from their Country.
31. The tenderers shall be responsible for erection & installation of the equipment at destination site and for making it fully operational. Payment and terms and conditions if any, for the same would be specified by the tenderer separately.



32. The tenderer shall be fully responsible for the manufacturers warranty in respect of proper design, quality and workmanship of all the equipment accessories etc. covered by the tender for a period from the date of satisfactory installation of the system. **The provision for extended warranty with terms and condition thereof, if any, may also be specifically mentioned.**
33. The supplier will have to provide bank guarantee on execution on the contract performance agreement for 5% of the invoice value. The contract performance agreement should be valid during the course of warranty period.
34. **The University reserves the right to purchase or to reject all or part of any of the Tenders without assigning any reasons.**
35. Canvassing in connection with tender / quotation is strictly prohibited.
36. The tenders are to be submitted in sealed envelope **superscribed the Serial Number and the name of the equipment with the cost of tender document for Rs.2,950/- (Rs.2500+Rs.450 GST 18%) to the Registrar, Madurai Kamaraj University, Madurai 625 021 on or before 16.04.2018 at 10.30 a.m. and the technical bid will be opened on 16.04.2018 at 4.00 p.m. in the presence of the tenderers or their authorized representative who would like to be present**

Place: Madurai-21

Date: .....

REGISTRAR