

WAJIR COUNTY GOVERNMENT



**SUPPLY, INSTALLATION & COMMISSIONING OF SOLAR STREET
LIGHT IN WAJIR TOWN.**

TENDER NO: WCG/RFP/T/ 405/2017-2018

Advert Date: **Thursday 16th November, 2017**

Closing Date: **Wednesday 29th November 2017**

TIME: 10.00 am

NOVEMBER, 2017

SECTION I INVITATION TO TENDER

TENDER NO:-.

TENDER NAME: - TENDER FOR SUPPLY, INSTALLATION AND COMMISSIONING OF SOLAR STREET LIGHT IN WAJIR TOWN.

The WAJIR COUNTY GOVERNMENT invites sealed tenders from eligible candidates' **FOR SUPPLY, INSTALLATION AND COMMISSIONING OF SOLAR STREET LIGHT IN WAJIR TOWN.**

Interested eligible candidates may obtain further information from and inspect the tender documents at (Procurement Office Wajir county Headquarters, on the Ground Floor, Airport Road, next to Water department during normal working hours between 8.00 AM and 5.PM.

A complete set of tender documents may be obtained by interested candidates at www.wajir.go.ke for FREE

Prices quoted should be net inclusive of all taxes, must be in Kenya Shillings and shall remain valid for 90 days from the closing date of the tender.

Completed tender documents are to be enclosed in plain sealed envelopes marked with Tender reference number and be deposited in the Tender Box at 9-70200 Wajir County Headquarters, Ground Floor, next to water department, P.O. Box 9-70200, Wajir so as to be received on or before **29th November, 2017 at 10.00 am**

Tenders will be opened immediately thereafter in the presence of the Candidates or their representatives who choose to attend at Wajir Conference Hall Headquarters.

Please Fill and complete the following forms as attached:-

Form of Tender

- This form must be completed by the tenderer and submitted with the tender documents. It must also be duly signed by duly authorized representative of the tenderer.

Confidential Business Questionnaire Form

- This form must be completed by the tenderer and submitted with tender documents

Tender Security Form

- Please provide security Bond or Bid bond equivalent of 2% for the total quoted

Contract Form

- Note applicable at this stage.

Performance Security form

- Note applicable at this stage

Bank Guarantee for Advance Payment.

- No advance payment

Manufacturer's Authorization Form

- Provide Manufacturing authorization

FORM OF TENDER

Date _____

Tender No. _____

To: _____

[name and address of procuring entity]

Gentlemen and/or Ladies:

Having examined the tender documents including Addenda Nos. *[insert numbers]*.the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply deliver, install and commission (..... *(insert equipment description)* in conformity with the said tender documents for the sum of *(total tender amount in words and figures)* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Tender.

We undertake, if our Tender is accepted, to deliver install and commission the equipment in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Tender is accepted, we will obtain the guarantee of a bank in a sum of equivalent to _____ percent of the Contract Price for the due performance of the Contract , in the form prescribed by*(Procuring entity)*.

We agree to abide by this Tender for a period of *[number]* days from the date fixed for tender opening of the Instructions to tenderers, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

This Tender, together with your written acceptance thereof and your notification of award, shall constitute a Contract, between us. Subject to signing of the Contract by the parties.

We understand that you are not bound to accept the lowest or any tender that you may receive.

Dated this _____ day of _____ 20 _____

[signature]

[in the capacity of]

Duly authorized to sign tender for an on behalf of _____

CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

You are requested to give the particulars indicated in Part 1 and either Part 2(a), 2(b) or 2 (c) whichever applied to your type of business You are advised that it is a serious offence to give false information on this form

Part 1 – General:

Business Name

Location of business premises.

Plot No..... Street/Road

Postal Address Tel No. Fax E mail

Nature of
 Business,.....

Registration Certificate No.

Maximum value of business which you can handle at any one time – Kshs.

Name of your bankers Branch

Part 2 (a) – Sole Proprietor

Your name in full Age

Nationality Country of origin

Citizenship details

Part 2 (b) Partnership

Given details of partners as follows:

Name	Nationality	Citizenship Details	Shares
1.
2.
3.
4.

Registered Company:- Private or Public

State the nominal and issued capital of company-

	Nominal Kshs.	
	Issued Kshs.	
Given details of all directors as follows		
	Name	Nationality
		Citizenship Details
		Shares
1.	.....	.....
2.	.....	.....
3.	.....	.....
4.	.....	.....
5.	.....	.....
Date		
Seal/Signature of Candidate		

TENDER SECURITY FORM

Whereas [*Name of the tenderer*](Hereinafter called “the tenderer”) has submitted its tender dated [*Date of submission of tender*] for the supply, installation and commissioning of [*Name and/or description of the mast light*](Hereinafter called “the Tender”) KNOW ALL PEOPLE by these presents that WE of having our registered office at (Hereinafter called “the Bank”), are bound unto [*Name of procuring entity*] (Hereinafter called “the Procuring entity”) in the sum of for which payment well and truly to be made to the said Procuring entity, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20 _____.

THE CONDITIONS of this obligation are:-

1. If the tenderer withdraws its Tender during the period of tender validity specified by the tenderer on the Tender Form; or
2. If the tenderer, having been notified of the acceptance of its Tender by the Procuring entity during the period of tender validity:
 - (a) fails or refuses to execute the Contract Form, if required; or

- (b) fails or refuses to furnish the performance security in accordance with the Instructions to tenderers;

We undertake to pay to the Procuring entity up to the above amount upon receipt of its first written demand, without the Procuring entity having to substantiate its demand, provided that in its demand the Procuring entity will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This tender guarantee will remain in force up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the above date.

[Signature of the bank]

CONTRACT FORM

THIS AGREEMENT is made _____ day of _____ 20 _____ between [*name of Procurement entity*] of [*country of Procurement entity*] (hereinafter called “the Procuring entity) of the one part and [*name of tenderer*] of [*city and country of tenderer*] (hereinafter called “the tenderer”) of the other part;

WHEREAS the Procuring entity invited tenders for [certain goods] and has accepted a tender by the tenderer for the supply of those goods in the sum of [*contract price in words and figures*] (hereinafter called “the Contract Price).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to:
2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz:
 - (a) the Tender Form and the Price Schedule submitted by the tenderer
 - (b) the Schedule of Requirements
 - (c) the Technical Specifications
 - (d) the General Conditions of Contract
 - (e) the Special Conditions of contract; and
 - (f) the Procuring entity’s Notification of Award
3. In consideration of the payments to be made by the Procuring entity to the tenderer as hereinafter mentioned, the tenderer hereby covenants with the Procuring entity to provide the

goods and to remedy the defects therein in conformity in all respects with the provisions of this Contract

4. The Procuring entity hereby covenants to pay the tenderer in consideration of the provisions of the goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____ the _____ (for the Procuring entity)

Signed, sealed, delivered by _____ the _____ (for the tenderer in the presence of _____)

PERFORMANCE SECURITY FORM

To be availed after the award of the contract to the winning bidder

To

[name of Procuring entity]

WHEREAS *[name of tenderer]* (hereinafter called "the tenderer") has undertaken , in pursuance of Contract No. _____
_____ *[reference number of the contract]* dated _____ 20 _____
_____ to supply *[description of goods]* (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the tenderer shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Tenderer's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the tenderer a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the tenderer, up to a total of *[amount of the guarantee in words and figure]* and we undertake to pay you, upon your first written demand declaring the tenderer to be in default under the Contract and without cavil or argument, any sum or sums within the limits of

..... [*amount of guarantee*] as aforesaid, without you needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the _____ day of _____ 20 _____

Signed and seal of the Guarantors

[*name of bank or financial institution*]

[*address*]

[*date*]

(Amend accordingly if provided by Insurance Company)

BANK GUARANTEE FOR ADVANCE PAYMENT

To
[*name of Procuring entity*]

[*name of tenderer*]

Gentlemen and/or Ladies:

In accordance with the payment provision included in the Special Conditions of Contract, which amends the General Conditions of Contract to provide for advance payment, [*name and address of tenderer*](hereinafter called “the tenderer”) shall deposit with the Procuring entity a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract an amount of [*amount of guarantee in figures and words*].

We, the [*bank or financial institutions*], as instructed by the tenderer, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Procuring entity on its first demand without whatsoever right of objection on our part and without its first claim to the tenderer, in the amount not exceeding [*amount of guarantee in figures and words*]

We further agree that no change or addition to or other modification of the terms of the Contract to be performed there-under or of any of the Contract documents which may be made between the Procuring entity and the tenderer, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid in full effect from the date of the advance payment received by the tenderer under the Contract until [*date*].

Yours truly,

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]

MANUFACTURER'S AUTHORIZATION FORM

To *[name of the Procuring entity]*

WHEREAS*[name of the manufacturer]* who are established and reputable manufacturers of *[name and/or description of the goods]* having factories at *[Address of factory]* do hereby authorize *[name and address of Agent]* to submit a tender, and subsequently negotiate and sign the Contract with you against tender No. *[reference of the Tender]* for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Tenders.

[Signature for and on behalf of manufacturer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by an authorized person.

LETTER OF NOTIFICATION OF AWARD

Address of Procuring Entity

To: _____

RE: Tender No. _____

Tender Name _____

This is to notify that the contract/s stated below under the above mentioned tender have been awarded to you.

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.
3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

(FULL PARTICULARS) _____

SIGNED FOR ACCOUNTING OFFICER

FORM RB 1
REPUBLIC OF KENYA
PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO.....OF.....20.....

BETWEEN

.....APPLICANT

AND

.....RESPONDENT (*Procuring Entity*)

Request for review of the decision of the..... (*Name of the Procuring Entity*) of
.....dated the...day of20.....in the matter of Tender No.....of
.....20...

REQUEST FOR REVIEW

I/We.....,the above named Applicant(s), of address: Physical
address.....Fax No.....Tel. No.....Email, hereby request the Public
Procurement Administrative Review Board to review the whole/part of the above mentioned decision
on the following grounds , namely:-

- 1.
 - 2.
- etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
 - 2.
- etc

SIGNED(Applicant)

Dated on.....day of/...20...

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on day of
.....20.....

SIGNED
Board Secretary.

RECOMMENDED LIGHTING PERFORMANCE/TECHNICAL SPECIFICATION FOR LED STREET LIGHT LUMINAIRES

A. GENERAL GUIDELINES:

The LED luminaire shall be designed to meet the lighting criteria for residential/commercial roads.

The luminaire shall be designed in accordance with the following requirements:

1. Design life: In excess of 25 years
2. The replacement (upgrading and service) of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical/gear compartment by means of a hinging mechanism.
3. Minimum IP rating of the light compartment, including driver compartment: IP66.
4. The protector shall be smooth, for easy cleaning, and shall be manufactured of tempered glass (IK08) or high-impact acrylic (IK10).
5. It shall be certified, in terms of IEC 60598, to operate at an ambient temperature of 35°C.

The thermal design shall be particularly designed for African exterior conditions, i.e. high temperatures, high pollution, corrosion resistant.

6. The cooling fins shall be designed in such a manner to prevent the accumulation of dirt, thus ensuring the continuous effective cooling. The cooling rib height to width ratio may not exceed 0.7. Additionally the top surface shall be curved in shape.
7. The LED life expectancy shall be 60,000 hours at 80% lumen maintenance. (***Documentary evidence from the LED manufacturer, by means of an appropriate datasheet, confirming the statistical correlation, shall be provided.***)

8. Use of high efficiency LED's (> 70 lumens/watt: Absolute photometry) CRI > 70. **Documentary evidence of compliance** to this clause shall be submitted with the tender.
9. Colour temperature shall be neutral white (5000K). A report from the LED vendor, for LED's used in the luminaire, shall be submitted, which shall include the following documentary evidence:
 - Measured LED junction temperature for a given test condition and extrapolated for an ambient temperature of 35°C.
 - LED drive current.
 - LED manufacturer data that clearly correlates LED junction temperature and LED drive current to lumen maintenance.
 - The LED datasheets, indicating the Byy, Lxx data, as provided by the LED manufacturer.
 - Documentary evidence, confirming that the failure of one LED will not cause additional LED's to fail.
10. Direct conduction & maximized surface for external heat exchange shall be provided.
11. The PCB shall incorporate a temperature sensor which shall reduce the current to protect the LEDs at higher than rated ambient temperatures. The temperature sensor is not intended to switch off the LEDs at high temperatures.
12. Luminaire closure shall be by means of a single movement clip mechanism at the rear of the luminaire and secured by a tamper-proof screw to minimise theft and vandalism.
13. The control gear compartment shall be incorporated into the luminaire housing.
14. The power supply connection must take place inside the luminaire.
15. The luminaire shall automatically disconnect the supply to the power supply once the luminaire is opened.

B. PHOTOMETRIC REQUIREMENTS:

The photometric data submitted by the tenderer shall be based on measurements undertaken by an internationally certified lighting laboratory as per British standard 5489-1:2003, for residential or commercial roads and streets. Copies of the photometric report (**by way of products catalogue**) shall be submitted and shall contain the measuring matrix, with measurement points as defined by CIE 140, illustrating:

- The (absolute) candela values, at an ambient temperature of 35°C.
- The description and photography of the luminaire tested.
- The supply voltage and LED currents during testing.
- LED lumen depreciation: 20%
- Maintenance factor: 0.9 (allowing for a 10% light loss due to dirt on the protector surface).
- The LED light output degradation, which is to be obtained from the LED manufacturer's datasheets, when operating the luminaire at an ambient temperature of 35°C. **LED Integrated Lights requirement**
(Attach product catalogue to proof)

SPECIFICATION	BENCHMARK
Operating voltage	12 V (DC)
Power efficiency	91%
LED quantity	≥60pcs cree LEDs
System power	45W
Light luminous efficiency	85~94L
Light initial luminous flux	2550lm
Temperature of junction (Tj)	<70°C
CRI	Ra 68.0

LED life span	>60000H
Working environment	-40°C~+50°C
Surge voltage	10Kv
Protection grade	LED modules IP63 power supply IP67
Peak lighting angle	60° * 135°
Light distribution curve	batwing
Color temperature	3500K- 6500K

Luminaire design shall be such that the lighting area covered along the road is more compared to across the road i.e. at least 28 Lux at 20m distance from the pole along the road and at least 20 Lux at 25m distance from the pole across the road.

Figure B: Electrical interconnection for solar street light components.

C. POWER SUPPLY:

SOLAR PHOTOVOLTAIC MODULES

- Module Type: - High efficiency crystalline silicon modules (Mono/Poly crystalline)
- Voltage at maximum power - 16.5 V (Minimum)
- Warranted minimum Power rating: - As per description in the BOQ
- Open circuit Voltage (Minimum) - 20 VDC
- Number of cells per module - 36
- Maximum system voltage: - 600V
- Guarantee: - 15 Years

(Attach detailed technical specifications in form of Manufacturer's Datasheets

BATTERY:

12V-200Ah for single bulb or 400 AH for dual bulb sealed maintenance free deep cycle battery designed for repeated cyclic operations will be used. Its location should be nearer to top of the Pole and should be enclosed in a cabin that has pilfer proof lock.

SPECIFICATIONS	TECHNICAL BENCHMARK
Cells Per Unit	>6
Operating voltage (V)	12
Capacity	200 Ah@10hr-rate to 1.75V per cell @25°C
Max. Discharge Current	1000 A (5 sec)
Weight	Approx. 30.0 Kg or bigger
Operating Temperature Range	Discharge: -20 ~60 Charge: 0°C~50°C Storage: -20°C~60°C
Float charging Voltage	13.6 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	30 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25°C
Self Discharge	Self-discharge ratio less than 3% per month at 25°C
Internal Resistance	Approx. 5 mΩ

Provide Product catalogue indicating; Constant Current Discharge Characteristics at 25°C, Constant Power Discharge Characteristics at 25°C, Life characteristics of cyclic use, Storage characteristic, Charge characteristic Curve for standby use, Discharge characteristic Curve and Capacity Factors With Different Temperature. The power supply shall be removable and shall be suitable for operation with the specified rating of the lamp.

D. CONTROL UNIT

The tenderer shall provide 20A 12VSolar charge controller that adopts the most advanced digital technique and operates fully automatically. The Pulse Width Modulation (PWM) battery charging can greatly increase the lifetime of battery. The unit supplied should be ideal for off-grid solar lighting

system that needs light and timer control. The module should have the following features as the basic minimum requirement. (*Attach product catalogue to proof compliance*)

- 12V auto work
- High efficient Series PWM charging
- Automatically recognize day/night
- Intelligent timer function with 1-15 hours option
- Digital LED menu with simple setting and easy using
- Use MOSFET as electronic switch
- Temperature compensation
- Electronic protection: over charging, over discharging, overload, short circuit , and overheating
- Reverse protection: any combination of solar module and battery

E. STREET LIGHT POLE

The tenderer should provide 7.5-8 Meter MS/Galvanized pole with pedestal/mounting accessories. The pole should be 6m high (above ground), steel pole, and single arm/double armed, hot dip galvanized. It should have Round Section, thickness from 4-5mm. It should have base plate with hold-down provision

Spigot entries shall be designed to fit easily over the bracket pipe and shall be truly parallel to the fitting axis

- For Type 2 luminaires (side entry): Nominal size 42 mm

The luminaire shall be secured to the spigot by means of at least two stainless steel M8 grub screws, as specified in ISO 4762. This shall be done from the inside of the luminaire to minimise the risk of vandalism and theft. An additional safety screw, with a special coded screw head, shall protect the luminaire against pilferage.

Figure E: Side view of solar street lights (dual bulb)



Figure E: Side view of solar street lights (Single bulb)

F. WARRANTY

The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials, unless otherwise provided in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

The supplier warrants that each luminaire supplied under the contract shall have a maximum lumen depreciation of not more than 10% of the original lumen output of the luminaire during the period of warranty.

This warranty shall remain valid for thirty-six (36) months after the goods or any portion thereof as the case may be, have been delivered.

The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

Upon receipt of such notice, the supplier shall, within the specified period and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

If the supplier, having been notified, fails to remedy the defect(s) within the specified period, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

**BILL OF QUANTITIES (BOQ) SINGLE BULB
POLES**

DESCRIPTION OF MATERIALS	QTY	UNIT	UNIT PRICE (KES)	TOTAL PRICE(KES)
200W Solar Crystalline PV Module	336	No.		
45 W LED Solar Powered Streetlight Bulb	336	No.		
12V/200AH Sealed Gell Type Battery	336	No.		
Charge Controller 12V/20A With dusk and dawn light control	336	No.		
7 to 8 m High (above ground level) street lighting pole c/w foundation, support brackets for PV Module and Battery Housing	336	No.		
4 sq. mm PVC Twin Cable with earth	175	Mtr		
2.5 sq.mm PVC Twin Cable with earth	140	Mtr		
Miscellaneous Items (bolts, nuts, crimps, lugs)	1	Lot		
Provision frame for advertisement: 1.5 m × 1.5 m with bulb	1	Lot		
Civil works- excavation, hoisting, cementing	1	Lot		
Transport to site	1	Lot		
Installation, Testing and Commissioning	1	Lot		
SUB TOTAL				
VAT (zero rated)				
TOTAL COST CARRIED TO FORM OF TENDER				

TOTAL AMOUNT IN WORDS: Shillings

Tenderer's Name and Stamp:

Signature: _____ Date _____

EVALUATION CRITERIA

There are three levels of evaluation criteria subjected to Companies that bid for the installation of Solar Street light. These are: -

1. Mandatory Requirements
2. Technical evaluation
3. Financial Evaluation

1. MANDATORY REQUIREMENT

This is a compulsory requirement and if a company fails to meet any of the mandatory requirements, it is deemed non-responsive. The following table shows the mandatory requirements

S/NO	REQUIRED DOCUMENTS	YES	NO
1	Certified copy of Certificate of incorporation		
2	Certified Copy of Valid Tax Compliance certificate (will be verified via TCC)		
3	Current Business Permit		
4	5 % Bid Bond		
5	NCA 7 and above for Electrical works		
6	ERC Registration certificate		
7	Pagination (BQ Must be serialized)		
	TOAL SCORE		
	Add VAT		
	GRAND SUMMARY		

2. TECHNICAL EVALUATION

This is also a must for a firm or company to have and if a company fails to attain 70% of the technical requirements, it will not proceed to financial evaluation. The following table shows the technical requirements.

S/NO	REQUIRED DOCUMENTS	SCORE RATE	SCORE	RESPONSIVE/NONRESPONSIVE
1	Dully filled business questionnaire	5		
2	Original and a copy of the properly filled and bounded BoQ	5		
3	Dully filled tender form	5		
4	Detailed work schedule should be provided	10		
5	Provision of the mast manufacturer's ISO9001 2000 and accreditation certificate/Manufacturer Authorization.	15		
6	Updated Company Profile	5		
7	CVs of Key personnel: Have at least a degree in specialization in Renewable energy, Mechanical/chemical engineering, Microbiology or related professional courses. Registered with NEMA as a lead EIA/EA expert	15		
8	Work experience: proof of at least three similar work	15		
9	CR 12 form	5		
	TOAL SCORE	80		

NB: Only tenderers with 70 score shall proceed to Financial evaluation stage

3. FINANCIAL EVALUTION

S/NO	REQUIRED DOCUMENTS	SCORE RATE	SCORE/RANK
1	At least two years Audited Financial Report (2015/16 & 2016/17)	20	

T+F= ()

Final qualification in terms of marks is 85%