

GOVERNMENT OF WEST BENGAL  
DIRECTORATE OF FORESTS  
OFFICE OF THE DIVISIONAL FOREST OFFICER  
24 - PARGANAS (SOUTH) DIVISION  
12, BIPLABI KANAILAL BHATTACHERJEE SARANI  
NEW ADMINISTRATIVE BUILDING, 4<sup>TH</sup> FLOOR  
ALIPORE, KOLKATA - 700 027  
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Memo no: 7889/2-

Dated: 19.12.2017

**Notice Inviting Tender: - WBFOR/24PGSS/DFO/NIT31e/17-18 (2<sup>nd</sup> Call)**

The Divisional Forest Officer, 24 Parganas (South) Division, West Bengal, on behalf of the Governor, West Bengal invites **e-tenders** for the following work(s) from the eligible Contractors as detailed in the table below. [Collection (downloading) and Submission (uploading) of Tender can be made online through the website <https://wbtenders.gov.in> only].

**1. List of Work(s):**

Sl. No.	Tender No.	Name of work	Qty	Amount of Earnest Money to be deposited (Rs.)	Cost of tender documents (Tender Fees, in Rs.)	Period of Completion of the work
Col. (1)	(2)	(3)	(4)	(5)	(6)	(7)
1	<b><u>WBFOR/24PGSS/DFO/NIT31e/17-18 (2<sup>nd</sup> Call)</u></b>	<b>SUPPLY OF YAMAHA / MERCURY 75 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 *EFI - Electronic Fuel Injection</b>	1 no	10000.00	Free of cost	15.03.2018
2.		<b>SUPPLY OF YAMAHA 90 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 *EFI - Electronic Fuel Injection</b>	1 no	10000.00	Free of cost	15.03.2018

**2. Brief details on the nature of work:**

2.a)	Name of the project work	:	<b>SUPPLY OF YAMAHA / MARCURY 75 HP 4 STROKE OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 &amp; SUPPLY OF YAMAHA 90 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 *EFI - Electronic Fuel Injection</b>
2.b)	Project ID	:	ID - NIC_DFO- 2017-18
2.c)	Job ID	:	NIC/DFO/24PGS

2.d)	Consultant & Architect for the project	:	NIL
2.e)	Nature of Work	:	<b>SUPPLY OF YAMAHA /MERCURY 75 HP 4 STROKE &amp; YAMAHA 90 HP 4 STROKE OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION</b>
2.f)	Location of works	:	Bhagabatpur Crocodile Project, Bhagabatpur Range
2.g)	Contractors eligible to submit the tender	:	Enlisted contractors of authorized dealer who supplied to central Government or any State concerned, contractors having entitlement for supply of this type of works, having sufficient and adequate credentials for similar type of works not less than 50%(Fifty percent) of estimated amount put to tender of similar nature of works within the last 3 (three) years.
2.h)	Name & Address of the Tender Accepting Authority.	:	Divisional Forest Officer, 24 - Parganas (South) Division, 12, Biplabi Kanailal Bhattachaerjee Sarani, New Administrative Building, 4 <sup>th</sup> Floor, Alipore, Kolkata - 700027

### 3. Date & Time Schedule:

Sl. No.	Particulars		Date & Time
1.	Date of Publishing of NIT online through the website <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a>	:	19.12.2017 at 03:00 PM
2.	Date & Time for downloading of tender documents from the website <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a>	Start	19.12.2017 at 03:00 PM
		End	29.12.2017 at 17:00 PM
3.	Last Date and Time of submission of original instruments (GRIPS) in respect of payment towards cost of Tender document fees and EMD	:	02.01.2018 by 11:30 AM at the office of the <b>Divisional Forest Officer, 24 - Parganas (South) Division, 12, Biplabi Kanailal Bhattachaerjee Sarani, New Administrative Building, 4<sup>th</sup> Floor, Alipore, Kolkata - 700027</b>
4.	Date and Time of Submission of Tender through the website <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a>	Start	19.12.2017 at 03:00 PM
		End	29.12.2017 within 17:00 PM
5.	Date and Place of opening of Technical Bid through the Website, <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a>	:	02.01.2018 at 12.00 Noon <b>at the Office of the DIVISIONAL FOREST OFFICER, 24 - PARGANAS (SOUTH) DIVISION 12, BIPLABI KANAILAL BHATTACHERJEE SARANI NEW ADMINISTRATIVE BUILDING, 4<sup>TH</sup> FLOOR ALIPORE, KOLKATA - 700 027</b>
6.	Date of uploading the List of Technically Qualified Bidders after Technical Bid Evaluation through the website <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a> after disposal of appeals , if any	:	To be notified later.
7.	Date, Time and Place of Opening of Financial Bid through the website <a href="http://wbtenders.gov.in">http://wbtenders.gov.in</a>	:	To be notified later.  <b>at the Office of the DIVISIONAL FOREST OFFICER, 24 - PARGANAS (SOUTH) DIVISION 12, BIPLABI KANAILAL BHATTACHERJEE SARANI NEW ADMINISTRATIVE BUILDING, 4<sup>TH</sup> FLOOR ALIPORE, KOLKATA - 700 027</b>

**Note:**

- a). In case of any unscheduled holiday or on days of Bandh or natural calamity on the aforesaid dates, the next working day will be treated as scheduled / prescribed date for the same purpose.
  - b). The Tender Inviting Authority may change the venue of opening the Technical or Financial Bids in case of exigent circumstances like breakdown of communications link or conditions of force majeure.
  - c). The Tender Inviting Authority reserves the right to defer the date of opening of either Technical or Financial Proposal or both, if required.
- 1) **Cost of Tender** : Free
  - 2) **Earnest Money** : The Earnest Money amounting to 1% of the project cost to be deposited through GRIPS portal challan in favour of the **"Divisional Forest Officer, 24 - Parganas (South) Division" payable at KOLKATA**. The original paid challan against Earnest Money Deposit (EMD) and documents in support should be submitted physically in the Tender Box at the Office of Divisional Forest Officer, 24 - Parganas (South) Division. under sealed cover before 24 Hrs. of the date and time of opening of tender.
  - 3) **Security Deposit** :
    - a) The successful Tenderer, to whom a letter of acceptance has been issued, will have to deposit within 7 days from the date of letter of acceptance, a "Security Deposit" money amounting to 10% of quoted cost to be deposited through GRIPS portal in favour of the **"Divisional Forest Officer, 24 - Parganas (South) Division" payable at KOLKATA** and paid challan will be deposited to this office. The Tenderer should sign an "Agreement" with this office within 07 (seven) days from the date of communication and acceptance of the Tender.
    - b) The SD money will be released by Treasury (Alipore -II) only after expiry of the contract. On completion of the contract, the tenderer shall obtain a release order from the undersigned and submit the same with completion report to the Treasury Officer, Alipore - II. On receipt of the same, the security deposit will be released by the Treasury.
  - 4) The intending Bidders shall clearly understand that whatever may be the outcome of the present invitation of Bids, no cost of Bidding shall be reimbursable by the authority. The tender accepting authority of Divisional Forest Officer, 24 - Parganas (South) Division reserve the right to accept or reject any offer without assigning any reason whatsoever and is not liable for any cost that might have been incurred by any Tenderer at the stage of Bidding.
  - 5) Conditional / Incomplete tender will not be accepted under any circumstances.
  - 6) The intending tenderers are required to quote the rate online.
  - 7) During scrutiny, if it comes to the notice of the tender inviting authority that the credential or any other paper found incorrect / manufactured / fabricated, that bidder would not be allowed to participate in the tender and that application will be rejected without any prejudice.

- 8) The Divisional Forest Officer, 24 - Parganas (South) Division reserves the right to cancel the N.I.T. due to unavoidable circumstances and no claim in this respect will be entertained.
- 9) If there be any objection regarding prequalifying the Agency that should be lodged on line to the Chairman of Tender Evaluation Committee within 2 (two) days from the date of publication of list of qualified agencies and beyond that time schedule no objection will be entertained by the Tender Evaluation Committee.
- 10) Issuance of work order would depend on timely, approval sanction and release of fund by Govt if fund is not released in time, the undersign may cancel the tender.
- 11) Before issuance of the WORK ORDER, the tender inviting authority may verify the credential and other documents of the lowest tenderer if found necessary. After verification if it is found that the documents submitted by the lowest tenderer is either manufactured or false in that case work order will not be issued in favour of the said Tenderer under any circumstances without any reference to the lowest tenderer.
- 12) If any discrepancy arises between two similar clauses on different notification, the clause as stated in later notification will supersede former one in following sequence:
  - i) N.I.T.
  - ii) Terms & Conditions
  - iii) Technical Bid
  - iv) Financial Bid
- 13) Qualification criteria:
  - a) The tender inviting and Accepting Authority through a "Tender Evaluation Committee" will determine the eligibility of each bidder. The bidders shall have to meet all the minimum criteria regarding:
  - b) Financial Capacity
  - c) Experience / Credential & others eligibilities mentioned in table non statutory cover.

The eligibility of a bidder will be ascertained on the basis of the document(s) in support of the minimum criteria as mentioned in table non statutory cover, If any document submitted by a bidder is either manufactured or false, in such cases the eligibility of the bidder / tenderer will be rejected at any stage without any notice.
- 14) Escalation of Price on any ground and consequent cost overrun shall not be entertained under any circumstances. Rates should be quoted accordingly.
- 15) No price preference and other concession will be allowed.

# SECTION - A

## INSTRUCTION TO BIDDERS

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### 1. General guidance for e-Tendering:

#### 1.1 Digital Signature certificate (DSC):

Each suppliers is required to obtain a Class-II or Class-III Digital Signature Certificate (DSC) for submission of tenders from the approved service provider of the National Informatics Centre (NIC) on payment of requisite amount. Details are available at the Web Site stated in Clause A.1. above. DSC is given as a USB e-Token.

1.2 The contractor / suppliers can search & download N.I.T. & Tender Document(s) electronically from computer once he logs on to the website mentioned in Clause A.1. using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.

#### 1.3 Participation in more than one work:

A prospective bidder shall be allowed to participate in the job either in the capacity of individual or as a partner of a firm. If found to have applied severally in a single job all his applications will be rejected for that job.

### 2. Submission of Tenders:

Tenders are to be submitted through online to the website stated in Clause A.1. in two folders at a time for each work, one in Technical Proposal & the other is Financial Proposal before the prescribed date & time using the Digital Signature Certificate (DSC). The documents are to be uploaded virus scanned copy duly Digitally Signed. The documents will get encrypted (transformed into non readable formats).

#### 2.1 Technical Proposal:

The Technical proposal should contain scanned copies of the following in two covers (folders).

(a). **Statutory Cover Containing the following documents:**

- 1) Scanned copy of EMD to be submitted in 'EMD' folder.
- 2) NIT to be downloaded and then uploaded and digitally signed (in 'NIT' folder)

(b) Non statutory cover

Sl no	Category Name	Sub Category Description	Details	
A	CERTIFICATES	CERTIFICATES	1.	GST REGISTRATION CERTIFICATE & AKNOWLEDGEMENT
			2.	PAN
			3.	PTAX (CHALLAN)
			4.	LATEST IT RECEIPT
B	COMPANY DETAILS	COMPANY DETAILS 1 COMPANY DETAILS 2	1.	PROPRITORSHIP FIRM (TRADE LICENCE)
			2.	PARTNERSHIP FIRM (PARTNERSHIP DEEP, TRADE LICENCE)
			3.	LTD COMPANY (INCORPORATION CERTIFICATE, TRADE LICENCE)
			4.	SOCIETY (SOCIETY REGISTRATION COPY, TRADE LICENCE)
C	CREDENTIAL	CREDENTIAL 1 CREDENTIAL 2	1.	Enlisted contractors of authorized dealer who supplied to central Government or any State concerned, contractors having entitlement for supply of this type of works, having sufficient and adequate credentials for similar type of works not less than 50%(Fifty percent) of estimated amount put to tender of similar nature of works within the last 3 (three) years.
			2.	ENLISTMENT COPY ISSUE BY DEPT
D	FINANCIAL INFO	P/L AND BALANCE SHEET 2015-2016		PROFIT & LOSS AND BALANCE SHEET (WITH ANNEXURE AND 3CD FORM IN CASE OF TAX AUDIT)
		P/L AND BALANCE SHEET 2016-2017		PROFIT & LOSS AND BALANCE SHEET (WITH ANNEXURE AND 3CD FORM IN CASE OF TAX AUDIT)
		P/L AND BALANCE SHEET 2017-2018		PROFIT & LOSS AND BALANCE SHEET (WITH ANNEXURE AND 3CD FORM IN CASE OF TAX AUDIT)
F	MANPOWER	TECHNICAL PERSONNEL		LIST OF TECHNICALSTAFFS ALONG WITH STRUCTURE & ORGANIZATION (AS PER NIT)

2.2 Financial proposal

The financial proposal should contain the following documents in one cover (folder) i.e. Bill of Quantities (BOQ). The contractor / suppliers are to quote the rate (Presenting Above / Below / At par) online through computer in the space marked for quoting rate in the BOQ.

Only downloaded copies of the above documents are to be uploaded virus scanned & Digitally Signed by the contractor / suppliers.

Financial capacity of a bidder will be judged on the basis of information furnished in Section - B.

**3. Tender Evaluation Committee (TEC)**

Evaluation Committee constituted by the Competent Authority of the Joint Director, Sunderban Biosphere Reserve, West Bengal will function as Head of Evaluation committee for selection of technically qualified contractor / suppliers.

**4. Opening & evaluation of tender:**

If any contractor / suppliers is exempted from payment of EMD, copy of relevant Government Order needs to be furnished.

**4.1 Opening of Technical Proposal:**

Technical proposals will be opened by the Concerned Tender Inviting Authority or his authorized representative electronically from the website using their Digital Signature Certificate (DSC).

Intending tenderers may remain present if they so desire.

Cover (folder) for Statutory Documents (Ref. Sl. No. A.5.(a).) will be opened first and if found in order, cover (folder) for Non-Statutory Documents (Ref. Sl. No. A.5.(b).) will be opened. If there is any deficiency in the Statutory Documents the tender will summarily be rejected.

Decrypted (transformed into readable formats) documents of the non-statutory cover will be downloaded & handed over to the Tender Evaluation Committee.

Summary list of technically qualified tenderers will be uploaded online. Pursuant to scrutiny & decision of the Tender Evaluation Committee the summary list of eligible tenderers & the serial number of work for which their proposal will be considered will be uploaded in the web portals.

During evaluation the committee may summon of the tenderers & seek clarification / information or additional documents or original hard copy of any of the documents already submitted & if these are not produced within the stipulated time frame, their proposals will be liable for rejection.

**4.2 Opening of financial proposal.** The financial proposal of bidders declared technically eligible would be opened electronically on web portal by TEC on a perceived date.

**Penalty for suppression / distortion of facts:**

If any tenderer fails to produce the original hard copies of the documents like Completion Certificates and any other documents on demand of the Tender Evaluation Committee within a specified time frame or if any deviation is detected in the hard copies from the uploaded soft copies, it may be treated as submission of false documents by the tenderer and action may be referred to the appropriate authority for prosecution as per relevant Act.

**Acceptance of tender :** Lowest valid bid should normally be accepted but, the tender accepting authority does not bind itself to do so and reserves the right to subject any on all the tender, for valid reasons.

**Rejection of Bid:**

Employer reserves the right to accept or reject any Bid and to cancel the Bidding processes and reject all Bids at any time prior to the award of Contract without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the ground for Employer's action.

**Award of Contract**

The Bidder whose Bid has been accepted will be notified by the Tender Inviting Authority through acceptance letter / Letter of Acceptance.

The notification of award will constitute the formation of the Contract.

## ANNEXURE - B

### Terms and Conditions

1. E-Tender should submit on or before the mentioned date published on the tender notice.
2. The cost of Tender document is free.
3. A Tender is required to quote rates one number including fitting fixing all complete, in figures as well as in works. **The rate analysis should be enclosed along with the quoted rate. The authority shall have the liberty and discretionary power to take final decision which shall be final and binding .**
4. The Earnest Money Deposit (EMD) as mentioned in the schedule of tender should be deposit vide GRIPS portal. The print out shall be submitted along with tender documents.
5. **The works should be completed within such time as specified in the work order from the date of issue of work order. The work order will be issued only after receiving the financial and administrative approval from the appropriate authority.**
6. **No delay in completing the assigned works shall be acceptable under any circumstances. If any contractor who has received the work order, fails to complete the works within the due time as specified in his work order, the undersigned will be at his liberty to cancel the agreement signed between the successful tenderer and the undersigned after the lapse of due date. No payment in any mode shall be provided to him under any circumstances and his EMD shall be forfeited.**
7. The payment for the completed works will be made by the undersigned in 2017-18 financial year after fulfilling the necessary formalities and checking.
8. No extension of time will be allowed under any circumstances.
9. Materials will have to be procured by the tenderers by themselves following the standard and specifications of PWD/PHE/MNRDE/MSME/ISI Schedules of the district, subject to the approval of the undersigned or his sub-ordinate officers. In case of supply of any material by the department, the cost of such material will be recovered from the contractor.
10. The undersigned reserves the right to increase or decrease the volume of any item of work to the extent of 10% and add new item of work or withdraw any item(s) at his discretion at any point of time during execution of the works. No excess payment for such cases shall be made under any circumstances. No prayer in this regard shall be entertained.
11. All tools and plants required for execution of the works should be procured by the contractor at his own cost. The standard of such tools and plants will be as per the specification of the P.W.Deptt/P.H.E.
12. The successful contractors are required to deposit 10% of the accepted tender value as security deposit within 7(seven) days of intimation of acceptance of tender and sign an agreement on completion of which the order will be issued to the contractor.
13. The EMD of the successful contractor will not be adjusted towards the security deposit if requested by the tenderer. The EMD of the unsuccessful tenderers will be released on application within due course of time.
14. The security deposit will be released to the contractor after two year months from the last date of payment of the bill for project, if no irregularity is noticed within this period. In case of any irregularity, the security deposit will be forfeited. In addition to any legal action as deem fit and required.
15. The undersigned reserves the right to cancel the agreement at any point of time of execution of the work within the schedule of time of completion of the tendered work, if works are not



- satisfactory, are delayed or any term and condition as per agreement is violated by contractor.
16. Deduction of sales tax, income tax, GST registration, labour welfare cess shall be made as per rule in vogue.
  17. The successful tenderer will not assign any or part of the work to any other contractor.
  18. The successful tenderer may, however authorize any person to supervise the day to day work, submit the requisition of materials, attend the measurement when taken by the authorized officer and record his signature on the work measurement note books. The authorized officer and record his signature on the work measurement not ebooks. The authority duly approved and accepted by the undersigned will be operative.
  19. In case of any dispute the interpretation of the undersigned will be final.
  20. The tender notice along - with all terms and conditions mentioned above will form the part of the agreement to the executed by the tenderer.
  21. Rate offered in the estimate is the final and tenderer will not have any further claim.
  22. The tender inviting authority reserve the right to (i) split the work amongst the lowest tenderers.
  23. Rate quoted (including ST, IT, GST etc) shall remain open for acceptance at least 6(six) months from the date of opening the tender.
  24. **The rate should be quoted not less than multiple of 0.50% less or more than estimated value.**
  25. The undersigned has the authority to reject any or all tenders received without assigning any reason thereof.
  26. The fund against contingency will be at the disposal of the D.F.D. and tenderer will not be having any claim for that.
  27. The material shall be supplied at the site. No extra charge will be given for carriage of materials.
  28. The photocopies of ISI certificate/Technical parameter wherever required should be submitted along with tender.
  29. Payment shall be made electronically to the contractor through Treasury-II, Alipore by employer on the certified bills of the representative of the employer. All bills shall be prepared by the contractor in the from prescribed by the employer. The payment may be delayed some time for non receiving of fund in time.
  30. The rate shall be valid for six months from date of opening tender.
  31. The taxes as applicable shall deducted from the final bill.

Divisional Forest Officer  
24-Parganas South Division

Specification Mercury 75 HP, 4 sock

SI No	Description of items	Specification of 75 HP 4 sock (Mercury)	
<b>SUPPLY OF YAMAHA / MERCURY 75 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 *EFI Electronic Fuel Injection</b>	HP /kW		75
	Engine type		8-valve single overhead cam(SOHC) inline 4
	Displacement (L)		2.1
	Full throttle RPM		4500-5500
	Air induction		Performance -Tuned Scroll intake manifold
	Fuel induction system		Computer controlled multi-port electronic fuel injection (EFI)
	Alternator amp/Watt		35 amp/441 watt with water cooled voltage regulator
	Recommended fuel		Unleaded Regular 87 Octane minimum (R+M/2) or 90 RON 10% Ethanol Maximum
	Recommended oil		Mercury fourstroke oil 10W-30
	Engine protection operator warning system		Sartcraft engine guardian
	Compatible with smart craft		Yes
	Starting		Smart start electric
	Controls		Mechanical throttle and shift
	Steering		Big tiller compatible Dual cable mechanical Hydraulic power steering
	Shaft length		20" /508 mm
	Gearcase ratio		2.07:1
	Dry weight * lightest model		359 ibs / 163 kg
	CARB star rating		3
	Bore and stroke		3.5 x 3.2" / 90 x 81 mm
	Ignition		Smart craft ECM 70 Digital inductive
	Fuel system		Electronic fuel injection (EFI)
	Cooling system		Water-cooled with thermostat
	Gear shift		F-N-R
	Gearcase options		Standard
	Trim system		Power tilt Power trim
	Exhaust system		Through prop
	Shallow water trim range (degrees)		20
	Lubrication system		Wet sump
Oil capacity		5.5 qts / 5.2 l	
Maximum trim range		22° (-6° to 16°)	

SI No	Description of items	Specification of 75 HP 4 sock (Yamaha)	
<b>SUPPLY OF YAMAHA / MERCURY 75 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISON DURING THE YEAR 2017-18 *EFI - Electronic Fuel Injection</b>	Type		Outboard motor
	Model number		F75LA
	Series		Four stroke midrange
	HP		75
	Engine type		4 cylinder
	Displacement		97 ci(1596 cc)
	Bore x stroke		79 x 81.4 mm (3.11 x 3.20 in )
	Prop shaft horsepower		75 @ 5500 RPM
	Compression ratio		9.6
	RPM range		5000-6000
	Fuel induction system		EFI(DOHC)
	Fuel type		Unleaded gasoline (minimum pump octane 87)
	Exhaust		Thru prop
	Ignition system		TCI micro computer
	CARB rating		3-Star
	Alternator outputat WOT		25A
	Starting system		Electric
	Lubrication		Wet sump
	Oil capacity		4.5 quarts
	Recommended engine oil		Yamalube 4 M
	Gear ration		2.31
	Control type		Remote
	Trolling throttle adjustment		+/- 50 RPM increments (600-1000 RPM range) via command link system
	Cooling		Water, thermostatic control
	Weight		369 ib (168 kg)
	Gear shift		F-N-R
	Command link system		Optional equipment
	Enhanced ultimate corrosion protection system UCP		Standard feature
Power trim and tilt		Yes	
Shaft length		20 inch	
Gear case rotation		Right hand(Standard)	
Propeller		Optional equipment	
Tiller handle kit		Optional	
Freshwater flush		Yes	

SI No	Description of items	Specification of 90 HP 4 sock (Yamaha)	
<b>SUPPLY OF YAMAHA / 90 HP 4 STROKE EFI, OBM ENGINE UNDER 24 - PARGANAS (SOUTH) DIVISION DURING THE YEAR 2017-18 *EFI Electronic Fuel Injection</b>		Engine type	inline four cylinder
		Displacement	97 ci (1596 cc)
		Bore x stroke	79 x 81.4 mm (3.11 x 3.20 in)
		Prop shaft horsepower	90hp @5500 rpm
		Compression ratio	9.6:1
		Fuel/induction system	EFI/SOHC/4 Valves per cylinder
		Exhaust	Through propeller
		Intake	Single throttle valve
		Ignition system	TCI micro computer
		Spark plug	LFR5A-11-00-000
		Alternator output	25 AMP
		Starting system	Electric w/PTT
		Lubrication	Wet sump
		Engine oil capacity	3.7 L / 3.5 L w /without filter
		Full throttle RPM range	5000-6000
		Cooling	Water / thermostatic control
		Recommended engine oil	yamalube@ 4M (see owner's manual)
		Recommended fuel	Regular unleaded (Minimum pump octane 87)
		Recommended fuel filtration	Yamaha mini 10-micron fuel/water separating filter (external)
		Ethanol blend limit	10% maximum
		Gear ratio	(25:11) 2.27:1
		Gear shift	F-N-R
		Shaft length	L = 20" x = 25"
		Degree of tilt	70°
		Degree of trim	-4° through + 16°
		C.A.R.B rating	3-Star
		Dry weight	25" shaft / 169 kg (372 ibs) ' 20" shaft / 166 kg (366 ibs)
		Steering angle (maximum)	35° from entre direction
		Warranty	3 year limited pleasure boat - 1 year limited commercial
		Trim system	Power tilt Power trim
Exhaust system	Through prop		
Shallow water trim range (degrees)	20		

Divisional Forest Officer  
24-Parganas South Division

