

**ADDITIONAL TERMS AND CONDITIONS FOR CONTRACT OF
COMBINED ITEMS & INCL MEAT GP ITEMS THROUGH GeM PORTAL**

General Conditions

1. **Law.** The Contract shall be considered and made in accordance with the laws of the Republic of India. The contract shall be governed by and interpreted in accordance with the laws of the Republic of India.
2. **Buyer.** The Buyer will be the contract operating and concluding authority.
3. **Seller / Supplier.** The Seller would be the L1 bidder who would secure the contract and receive the Contract Order.
4. **Important Disclaimer.** The said contract for Perishable items is being concluded for the personnel of the Indian Armed Forces. There may arise a situation, that due to operational reasons there may be variation in demand as mentioned in the BID. There may also arise a situation that the Buyer (Tenders / Contract Operating Unit) may only be able to consume value less than 75% of the overall value of the contract. The Buyer will not be liable for any penalty and the seller (Bidder) will not be authorised any compensation to this effect.
5. **Any conditions or stipulations referred here shall prevail over the General Terms & Conditions (GTCs) or stipulations available on GeM portal in so far as and to the extent to which the latter are in any way repugnant to the former.**
6. **Conflict Clause.** In case of a conflict between the relevant clauses of General Terms & Conditions of GeM, the concerned clause in this document (buyer added Additional Terms & Conditions) will supersede all other clauses.
7. **Effective Date of the Contract.** The contract shall come into effect the day contract order is placed on GeM and shall remain valid until the completion of the obligations of the parties under the contract. The deliveries and supplies and performance of the services shall commence from the effective date of the contract.
8. **Online Submission.** The Online Bids will be submitted alongwith following scanned documents :-
 - (a) **Earnest Money Deposit (EMD).** Scanned copy of EMD alongwith clearly mentioning details of handing over of physical copy of instrument to nearest Supply Depot/Station Headquarters or the same should be sent physically at Supply Depot Danapur before opening of tender.
 - (b) Scanned copy of certificate of Financial Capacity as per **Appendix A.**
 - (c) Scanned copy of certificate of "Acceptance of Terms & Conditions of Tender Documents" enclosed as **Appendix B.**
 - (d) Self certified copy of valid FSSAI Certificate for items being bid for.
9. **Evaluation Criteria & Price Bid Issues.** Bids will be opened by Station Board of Officers/ Procurement Committee and will be evaluated based on the following guidelines:-
 - (a) Only those Bids will be evaluated which are found to be fulfilling all the eligibility and qualifying requirements of the Bid.

(b) The evaluation and comparison of responsive bids shall be done on the prices of the goods offered inclusive of all levies & taxes, such as VAT, Excise Duty and other charges such as Packing & Forwarding, Freight and insurance, etc, as indicated in the price schedule of the bid document but exclusive of Octroi/Entry Tax, which is to be paid extra as per actual, wherever applicable.

(c) It is mandatory for the Seller to quote rates against each category/brackets/clause in the Bid. If there is a discrepancy between words and figures, the amount in words will prevail.

(d) In case rate(s) at any category/bracket/clause are not filled by the Seller, the said Bid will be rejected.

(e) The lowest bid will be decided on the basis of lowest basket rate i.e overall combined value of the rates quoted by vendor for all items.

(f) Notwithstanding the above, the buyer is at liberty to accept the rates in whole or part whichever is economical to the state.

(g) The approval or rejection of tender rest with CFA (Competent Financial Authority) who reserves to himself the right of rejecting any bid in whole or in part in respect of delivery points shown in the Schedule without cause assigned.

(h) **Fictitious Rates.** As mentioned in Para 70 of GoI, MoD letter No PC/Raksha/63060/Q/ST53633/D(QS) dt 26 Sep 2006, in case rates quoted are lower than 20% of reasonable rates, the same will be treated as fictitious and rejected by Panel of Officers.

10. **Inspection Authority.** The inspection will be carried out before acceptance by Contract Operating Officer or his authorized representative. The mode of Inspection will be Departmental inspection / buyer inspection.

11. **Contract Operating Officer(s).** The Buyer may authorize one or more officers as Consignees or Contract Operating Officers (COOs) to operate the contract on his / her behalf. The Seller will accept and carry out all instructions given by such COOs or their representatives in connection with this contract.

12. COOs may change during the currency of the contract due to functional reasons for which the Seller shall have no objection.

13. In the event of any dispute of providing the required items between the seller and the buyer (Officer operating the contract), regarding quantity / quality of Perishable items, the decision of the Contract Operating Officer shall be final and binding on the supplier.

14. Any restriction, what so ever, imposed by the local State/Central Government on the transport/ export/import of the articles will not absolve the Supplier from the obligation for the contract and will not be accepted as an excuse for non delivery of the same.

(i) Failure by the firm to bid for any station of the cluster shall render the bid to be cancelled.

(ii) General Conditions Special Conditions (including Addendums to Special Conditions) and Authorized substitutes chart attached.

15. **Penalty for use of Undue influence.** Any act breach of the Seller or any one employed by him or acting on his / her behalf (whether with or without the knowledge of the Seller) or the commission of any offers by the Seller or anyone employed by him or acting on his / her behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1986 or any other Act enacted for the prevention of corruption shall entitle the Buyer to cancel the contract and all or any other contracts with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Buyer or his / her nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the Seller.

16. **Agents / Agency Commission.** The Seller confirms and declares to the Buyer that the Seller is the original provider of the services referred to in this contract and has not

engaged any individual or firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, to the award of the contract to the Seller. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual/firm, and paid or intended to pay any amount/gift, the Seller will be debarred from entering into any contract with the Government of India for a minimum period of five years. The Buyer will also have the right to recover any such amount from any contracts concluded earlier with the Government of India.

17. **Access to Books of Accounts.** In case it is found to the satisfaction of the Buyer that the Seller has engaged an agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents/Agency Commission and penalty for use of undue influence, the Seller, on a specific request of the Buyer, shall provide necessary information/ inspection of the relevant financial documents/information.

18. **Notices.** Any notice required or permitted by the contract shall be written in the English language and may be delivered personally or may be sent by FAX, or registered pre-paid mail / airmail or email/SMS/ Tele messages, addressed to the last known address of the party to whom it is sent.

19. **Transfer and Sub-letting.** The Seller has no right to give, bargain, sell, assign or sublet or otherwise dispose off the contract or any part thereof, as well as to give or to let a third party take benefit or advantage of the present contract or any part thereof.

20. **Amendments.** No provision of this Bid document shall be changed or modified in any way (including this provision) either in whole or in part except by an instrument in writing made after the date of this contract and signed on behalf of both the parties and which expressly states to amend the present contract.

21. **Tax and Duties.**

(a) **GST.** As made applicable by Government of India from time to time.

(b) **Toll Tax/ Entry Tax/ Octroi Duty & Local Taxes.** Normally, materials to be supplied to the Government Departments against Government Contracts are exempted from levy of Toll Tax/ Town Duty, Octroi Duty, Terminal Tax and other levies of local bodies. Wherever required, Seller should obtain the exemption certificate from the Buyer, to avoid payment of such local taxes or duties. No compensation / liability will rest on the Buyer, for non-acceptance of such exemption certificate by the taxation authorities. **No separate payment would be made by the Buyer for Toll Taxes, Entry Taxes, Octroi duty and local Taxes**, if any. The Seller should cater for these Taxes/ duties as part of Basic Rate quoted in the Bid.

(c) **TDS.** TDS as applicable will be deducted.

22. **Earnest Money Deposit (EMD).** The amount of earnest money will be worked out at **one percent** of total value of the contract at current contract rates and it should be rounded off to nearest hundred. The EMD at the rate of **Rs 16,100 (Rupees Sixteen thousand One hundred only)** must be made payable to the officer for tenders i.e. Officer Commanding, Supply Depot ASC Danapur. The EMD must be valid upto 31 Mar 2023. A scanned copy of EMD will be uploaded on GeM alongwith other documents for tech evaluation. **The Physical Copy of EMD instrument will be deposited by the contractors at Supply Depot ASC Danapur or nearest ASC Units / Supply Depots / Station Headquarters manually before bid opening with intimation of deposition of physical copy of its location.** Bids NOT accompanied with EMD will be rejected in tech evaluation.

In the event of withdrawal of bid after the bid opening date & time but before commencement of the contract will lead to forfeiting of EMD and other penal action as per Defence Procurement Manual - 2009. The EMD money must be in one or other or partly in another of the following forms:-

- (a) **Cash.** By remitting cash in government treasury.
- (b) **Demand Draft from Schedule Banks.** These can be accepted provided the amount involved is less than Rs. 5000.00.
- (c) **Deposit at call receipt of a schedule bank including the State Bank of India, and its subsidiaries approved under the Bank Guarantee Scheme.** *This will be accepted provided the amount exceeds Rs. 5000.00.
- (d) In the form of fixed deposit receipts.

23. **Modification and Withdrawal of Bids.** A bidder may modify or withdraw his online bid after submission as per the facility provided in the Defence Procurement Portal, only prior to the date and time prescribed for end of submission of Bid. No bid shall be modified after the date and time for end of submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and expiry of the period of bid validity specified. Withdrawal of a bid during this period will result the earnest money shall be forfeited to the Government without prejudice to any other right of the Government under this contract and the law. The earnest money shall also be liable to be forfeited in full, if the tenderer fails to furnish security deposit by the due date. No interest will be payable on the amount of the earnest money in any case.

24. **Rejection of Bids.** Canvassing by the contractor in any form, unsolicited letter and post-tender correction may invoke summary rejection with forfeiture of EMD. Conditional tenders will be rejected.

25. **Performance Guarantee.**

(a) The Bidder will be required to furnish a Security Deposit/Performance Guarantee equal to **three percent** of contract value by way of Bank Guarantee through a public sector bank or a private sector bank authorized to conduct government business for a sum as specified in the acceptance of Tender Note within twenty days of receipt of the confirmed order or before the commencement of contract, whichever is earlier (or within such extended time as may at the sole discretion of the Govt be granted to the Bidder/ Firm/ Vendor by the contract sanctioning authority).

(b) Performance Bank Guarantee (PBG) should be valid up to six months beyond the date of completion of contractual obligations. The deposit receipts should be made out in favour of **ADST, HQ J & B Sub Area**. A format of the PBG is also attached at **Appendix C**.

(c) In case of non submission of performance Guarantee in full by due date, The contract operating officer may, however, at his discretion make good the amount required by deducting the same from bills outstanding in favour of the firm with the dependent Supply Depot or PCDA concerned. Same action will be taken in case of re-appropriation of security from expired or expiring contracts, if the re-appropriation action is not completed within the stipulated period and the performance security is not deposited by the contractor.

- (d) The Buyer has the right to invoke the performance security deposit in case of any breach of the contract by the Seller or by not delivering the stores by the due dates.
- (e) The seller will have to refund to the government any claim under the warranty clause and other claim(s) that may arise out or under this contract as soon as a demand to that effect is made by the contract sanctioning officer, failing which such claims will be recovered by adjustment against the performance security deposits. Should this sum be not sufficient to cover the full amount recoverable, the seller shall pay the remaining balance due to the government on demand.
- (f) The performance security deposit as per this contract can be adjusted by the Government if there is any claim whatsoever against the seller relating to this contract or otherwise.
- (g) Performance Guarantee or any balance thereof remaining at the end of the contract shall not be returned to the seller until their accounts have been finally audited and settled and until the seller has executed the usual 'No Demand Certificate'.
- (h) The performance security deposit will be refunded to the seller only after the completion of the contract in all respect and on submission of 'No Demand Certificate' obtainable from Contract Operating Officer by the seller.
- (j) In all cases the performance security deposit will be pledged as directed by the Officer calling for tenders in accordance with existing regulations, and in such manner (to be decided by the officer sanctioning the contract) that the Government may realize the same without reference to the tenderer/seller.

26. **Option Clause.** To take care of any change in the requirement during the period of the Contract, the Buyer reserves the right to place orders for additional quantity up to a maximum of 50% of the originally contracted quantity at the same rate and terms of the contract.

27. **Repeat Order Clause.** The buyer can order up to 50% of the total contracted quantity of Perishable items under the present contract within six months from the date of successful completion of this contract, the rates, terms and conditions remaining the same. While exercising this clause, the overall ceiling of 50% of the total originally contracted quantity will not be exceeded. It will be entirely the discretion of the buyer to exercise this option.

Note : Option Clause and Repeat Order Clause may be exercised more than once, provided altogether these orders do not exceed 50% of the original order quantity.

28. **Fall clause.** The following fall clause is applicable:-

- (a) The price charged by the Seller for the services for / in / from / to a particular Station under the contract shall in no event exceed the lowest prices at which the Seller sells the services or offers to sell services of identical description to any persons/Organization including the purchaser or any department of the Central or State Government or any statutory undertaking of the Central or State Government as the case may be, during the currency of the contract.
- (b) If at any time, during the said period the Seller sells or offers the services to any persons/ Organization as mentioned above, at a price lower than the price chargeable under this contract, then he shall notify such reduction or sale or offer of

sale to the Buyer immediately and the price payable under this contract for such services shall stand correspondingly reduced.

(c) The Seller shall furnish a certificate to the Paying Authority along with each bill for payment for services delivered against the contract in this regard.

29. **Arbitration.** All disputes or differences arising out of or in connection with this Contract shall be settled by bilateral discussions. Any dispute, disagreement or question arising out of or relating to the Contract or relating to construction or performance, which cannot be settled amicably, may be resolved through arbitration. The standard clause of arbitration is as per applicable Form of DPM-7. (Note - In the event of the parties deciding to refer the dispute/s for adjudication to an Arbitral Tribunal then one arbitrator each will be appointed by each party and the case will be referred to the Indian Council of Arbitration (ICADR) for nomination of the third arbitrator. The fees of the arbitrator appointed by the parties shall be borne by each party and the fees of the third arbitrator, if appointed, shall be equally shared by the buyer and the Seller).

30. **Force Majeure Clause.**

(a) Neither party shall bear responsibility for the complete or partial non-performance of any of its obligations (except for failure to pay any sum which has become due on account of receipt of goods under the provisions of the present contract), if the non-performance results from such Force Majeure circumstances as Flood, Fire, Earth Quake and other acts of God as well as War, Military operation, blockade, Acts or Actions of State Authorities or any other circumstances beyond the parties control that have arisen after the conclusion of the present contract.

(b) In such circumstances the time stipulated for the performance of an obligation under the present contract is extended correspondingly for the period of time of action of these circumstances and their consequences.

(c) The party for which it becomes impossible to meet obligations under this contract due to Force Majeure conditions, is to notify in written form the other party of the beginning and cessation of the above circumstances immediately, but in any case not later than **10 (Ten) days** from the moment of their beginning.

(d) Certificate of a Chamber of Commerce (Commerce and Industry) or other competent authority or organization of the respective country shall be a sufficient proof of commencement and cessation of the above circumstances.

(e) If the impossibility of complete or partial performance of an obligation lasts for more than **6 (six) months**, either party hereto reserves the right to terminate the contract totally or partially upon giving prior written notice of **30 (thirty) days** to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in the agreement for the goods received.

31. **Risk & Expense Clause.**

(a) The officer to whom supplies of Perishable items Fresh are to be delivered (in the contract referred to as the Officer Operating the Contract/ buyer, which expression shall include his duly authorized representative) may reject the supplies in whole or in part if in his opinion they are not, in all respects, in accordance with the contract and Defence Food Specifications as applicable.

(b) Seller shall not charge or be paid for supplies rejected as per provisions contained herein, and such supplies shall be removed by seller at his own expense.

- (c) Seller shall neither claim nor be entitled to payment for any damage that rejected supplies may suffer or any other harm incidental to a full and proper examination and test of such supplies.
- (d) Government shall be under no liability whatsoever for rejected supplies/services and the same shall be at seller's risk. If rejected supplies be not removed by seller within 15 days of rejection, the officer operating the contract shall be entitled to cause the same to be removed and to charge seller with all expenses incurred in such removal and/or to leave them on Government premises and to charge seller rent for the space occupied, the amount of such rent being settled in case of dispute, by the Officer sanctioning the contract or to sell or otherwise dispose off the goods on seller behalf and at seller's risk and to retain any money realised.
- (e) Buyer, in the event of rejection of supplies be entitled to demand replacement, at seller's own cost of such supplies of the quality required or if replacement is not permitted, to recover from seller the cost of transportation at public tariff rate on rejected supplies from the place of despatch to the place at which rejection took place.
- (f) In the event of:-
- (i) Rejection of supplies of Perishable items Fresh as described above, or on account of seller's failing, declining, neglecting or delaying to comply with any demand or requisition or otherwise not executing the same in accordance with the terms of the contract, the officer operating the contract or his successor in office shall be at liberty (without prejudice to any other remedy the Government may have on account of any claim for compensation against loss and inconvenience caused by such breach or non performance of the contract) to purchase or to procure or to arrange from Govt. stocks or otherwise, at seller's risk and expense, such supplies/services as may have been rejected or that seller may have failed, declined, neglected or delayed to supply, or such authorized substitutes thereof as specified and approved by the officer operating the contract or his successor in office and any excess cost so incurred over the contract price (together with all incidental charges and expenses) incurred in purchasing, procuring or arranging for such supplies/services or their authorized substitutes and in case where issues in replacement are made from Government stocks or supplies, the cost or value of such stocks or supplies (together with all incidental charges or expenses), shall be recoverable from seller on demand.
- (ii) Extra expenditure on account of risk and expense purchase made by the Government as above, will be deducted out of seller's payment of bills ex-Supply Depot/ CDA, due to seller or from the performance security deposit as the case may be pertaining to the said contract. In the event of any dispute of reasonableness of the actual amount recovered from seller it will only be resolved at seller/buyer instance under arbitration / settlement of disputes clause in this contract.
- (g) Buyer will also be at liberty, without prejudice to the right to recover extra expenditure incurred on account of risk purchase as a remedy for breach of contract to declare the contract as cancelled either wholly or to the extent of such default.
- (h) Any supply issued in lieu/ substitute from government rates against fixed supplies shall be changed as government payment issued rates current at the terms as given in the Stock Book Rate List at the time of issue.

32. **Termination of Contract.** In addition to anything mentioned in this document, the Buyer shall have the right to terminate this contract in part or in full in any of the following cases:-

- (a) The Seller is declared bankrupt or becomes insolvent.
- (b) As per decision of an Arbitration Tribunal.
- (c) The Buyer has noticed that the Seller has utilized the services of any Indian/Foreign agent in getting this contract and paid any commission to such individual/ company etc.
- (d) Notwithstanding anything to the contrary herein contained if the Military situation necessitates such a course, this contract may be terminated by the Buyer giving the Seller 60 days' notice at any time without the Seller being entitled any compensation on that account. In case of contract for a period of upto six month, the notice will be 30 days.

33. **Rescission of Contract.** The Buyer may rescind the contract by notice to Seller in writing:-

- (a) If the Seller assigns or sublets the contract or, if Seller attempts to do so.
- (b) If Seller or any of his / her agents or servants shall:-
 - (i) Be guilty of fraud in respect of the contract, or any other contract entered into by the Seller with Government; or
 - (ii) Directly or indirectly give, promise or offer any bribe, gratuity, gift, loan, perquisite reward or advantage pecuniary or otherwise to any Officer or person in the employment of the Government in any way relating to such officer's / person's office or employment.
- (c) If any such Officer or persons, mentioned in / sub paragraph (b) (ii) of this Para, become in any way directly or indirectly interested in the contract.
- (d) The delivery of supply is failed due to causes not attributable to Force Majeure for more than **five occasions in a month and / or 15 times** during currency of the contractor more than 30% of the contracted monthly requirement. Supply of less than 90 % of demand for a day/issue will be considered as failure.
- (e) If Seller or any of his / her partners become insolvent or apply for relief as an insolvent debtor or commence any insolvency proceedings or make any composition with creditors or attempt to do so or in the case of being a registered company, any order is duly made or any resolution is duly passed for winding up of the company.
- (f) If it should transpire that Seller is doing business conjointly with any other contractor(s) or that Seller is a partner in any other firm(s) participating as a competitor for this contract.
- (g) If Seller fails to deposit the Performance Bank Guarantee.

(h) In case of such rescission, Seller's PBG (or such portion thereof as the Buyer shall consider adequate) shall stand forfeited and be absolutely at the disposal of Government, without prejudice to any other remedy action that the Government may have or take.

(j) If this contract is for more than one station, its rescission under these conditions shall not be affected by the acceptance, meanwhile or subsequently, or supplies accepted or made at any station in ignorance of the rescission.

(k) In case of such rescission the Government shall be entitled to recover from Seller on demand any extra expense the Government may be put to in obtaining supplies hereby agreed to be supplied, from elsewhere in any manner, for the remainder of the period for which this contract was entered into, without prejudice to any other remedy the Government may have.

34. **Death of Contractor.** As per Sec 37 of the Contract Act 1872, 'Promises bind the representative of the promise. In case of death of such promisor before dealing performance, unless contrary intention appears from contract, heirs and partners of the Seller shall be responsible to make good the loss/damage/depreciation caused to the Government stores by the Seller's employees at the prevailing local market rates along with the incidentals.

35. The owner of agency or his / her authorized representative should meet and liaise with the Contract Operating Officer, on fortnightly basis.

36. **Quantum of Demand.** There is no guarantee that the requirement shall be evenly distributed throughout the period of the contract / agreement demand will be placed as per requirement. The total requirement of **Meat / Perishable** items is a rough indication of quantities on yearly basis/ contract period and the demand can vary each day/ week/ month and may not be uniform throughout the year. No claim for compensation, what so ever, shall be made by the Supplier or entertained by the Government on above / below of the scheduled quantities, or request for ex-gratia payment will be made by the Supplier. Varieties of Vegetable fresh and Fruit Fresh shall be provided as per demand placed by the buyer. Month wise percentage charts cum varieties schedule of Vegetable & Fruit Fresh for the whole year are attached.

Item Specific Terms and Conditions

37. **Inspection**

(a) The inspection includes visual scrutiny, weighment, inspection tests as mentioned in relevant DFS including examination of packing material.

(b) The verdict of the Procurement Committee/Commandant/Depot Supervising Officer concerned will be binding on the vendor.

(c) Each batch and lot will be treated as separate consignment for the purpose of inspection.

38. **Specification and Varieties.**

(a) The supplier will ensure conformity of items being supplied to the Defence Food Specifications attached and will deliver the items at consignee depot as per demand placed by Supply Depot ASC.

(b) **Quality.** Quality of the stores delivered shall correspond to the relevant Defence Food Specification. The delivered supplies will be subject to random/ complete inspections and approval by the Commandant/Depot Supervising Officer.

(c) **Varieties.** Varieties of Vegetable fresh and Fruit Fresh shall be provided as per demand placed by the buyer. Month wise percentage chart cum varieties schedule of Vegetable and Fruit Fresh for the whole year.

39. The following occasion will lead to rejection as per the discretion of the buyer:-

(a) Considering the consumption period of tendered stock, vendor/ bidder may be allowed to replace rejected stock and supply fresh stocks else procedure of Risk & Expense will be followed against the contractor/ seller.

(b) In case of rejection of stock tendered by the firm/seller, the firm/seller will lift the stocks within 24 hours including Sundays/ holidays at their own expense, else rent as applicable will be levied. Any damage to the stock due to non-lifting by the firm will be borne by the firm/seller.

40. The Seller will provide the required number of labours for unloading the items from the delivery vehicle and stacking them in the storage shed at Supply Depot. The price quoted by the seller should include all these services. No labours will be provided by the Supply Depot for unloading of the items.

41. For any clarification the bidders can contact as per following details:-

(a)	Name	:	JKM Laskar
(b)	Email ID	:	raghupati.raghab@nic.in
(c)	Tele No	:	8811856522
(d)	Address	:	Supply Depot ASC, Danapur PIN- 900441, c/o 56 APO

42. **CRAC (Consignee receipt-cum-acceptance certificate).** Refer Para 12 (i) (Page 26) of General Terms and Conditions on GeM 3.0 (Version 1.19). The CRAC (consignee receipt-cum-acceptance certificate) will be generated **ONLY AFTER RECEIPT OF "FIT"** verdict from inspecting officer/ his representative, after receipt of items for the complete duration of contract. In the event of automatic generation of CRAC without receipt of verdict/ quantity, the goods will not be accepted and the same will be mentioned in the observation.

Payment Conditions

43. **Claims.** The following Claims clause will form part of the contract placed on successful Bidder:-

(a) The claims may be presented either:-

(i) On quantity of the stores, where the quantity does not correspond to the quantity shown in the Packing List/Insufficiency in packing, or

(ii) On quality of the stores, where quality does not correspond to the quality mentioned in the contract.

(b) The deficiency of quantity shall be mentioned by the consignee supply depot on the dispatch invoice / dispatch voucher of the seller at the time of acceptance of Perishable items and necessary recoveries will be made by Officer Operating the Contract in the payment against the fortnightly bill submitted by the seller.

(c) The Seller shall collect the defective or rejected goods from the location nominated by the Buyer and deliver the replaced goods at the same location under Seller's arrangement.

(d) Claims may also be settled by deduction of cost of goods under claim from bonds submitted by the Seller or payment of claim amount by Seller through demand draft drawn on an Indian Bank, in favour of **Controller of Defence Accounts concerned**.

(e) The quality claims will be raised solely by the Buyer and without any certification/countersignature by the Seller's representative

44. **Paying Authority (Commandant Supply Depot Danapur/CDA).**

(a) The following details are given to enable internal audit to admit payments in connection with this Supply Order:-

(i) Head of Account for this Contract. Commandant Supply Depot ASC Danapur.

(ii) CFA for this Contract. GOC, HQ J & B Sub Area.

(iii) Schedule of Powers applicable for this Contract. **Sch 2 of ASP of DFPDS-2021.**

(iv) State and limits within which the contract will be in force. _____

(b) Inspection Authority. Contract Operating Officer (COO) or his auth representative.

(c) Consignee/ Buyer: Supply Depot ASC Danapur.

(d) Indenter. Supply Depot ASC Danapur.

45. **Payment Terms.** Payment will be undertaken in offline mode upto 95% of value of qty delivered as per contractors bill submitted duly supported by IAFS-1520. It will be mandatory for the bidders to indicate their bank account numbers and other relevant e-payment details so that payments could be made through ECS/EFT mechanism instead of payment through cheques, wherever feasible. A copy of the model mandate form prescribed by RBI to be submitted by bidders for receiving payments through ECS. Payment of bills of successful tenderers will be made on the government treasury at _____ by NEFT/RTGS. The payment will be made as per the following terms, on production of the requisite documents:-

(a) The receipt for transaction as they occur will be passed to seller by the Contract Operating Officer/OC Unit concerned on IAFZ-1520/IAFZ-2135 which will be supported by buyer bills to the PCDA/CDA concerned for audit and payment.

(b) Seller to agree that payment for supplies tendered by them under the contract will be made to the credit of seller account in a recognized bank in the Union of India.

(c) Seller is required to acknowledge the receipt of payment made through NEFT in seller favour within 15 days.

46. Any delay in payment of seller bills by the paying authority/PCDA/CDA concerned with holding by them of payment or any money to seller on any account will not absolve

seller from the responsibility or carrying out their contractual obligations under terms of the contract.

47. **Advance Payment.** No payment will be made in advance for any supplies under this contract.

48. I/We agree that:-

(a) The supplies will be tendered in accordance with revised Defence Food Specification No 390 for live stock (MOH Sheep/Goat), 404 for poultry alive, 357 for Eggs fresh, 360 for vegetable fresh, 359 (Revised) for Fruit fresh, 363 for potatoes fresh, 362 for Onion fresh, 361 for Garlic, 358 for fish fresh, 513 for Ice (MM), 497 for White Bread and 498 Wheatmeal Bread etc as the case may be are attached to this tender.

(b) At stations where there is delivery clause in the contract agreement of a ASC Supply Depots, OIC delivery point nominated as such will also be the contract operating officer of the delivery point and at all other station, OC stations/unit, sector Cdr, OC Military Hospital (as the case may be) or their nominated representative will be the Contract Operating Officer.

CERTIFICATE : FINANCIAL CAPACITY / CCC

(To be given on Company Letter Head)

1. My/our overall financial capacity based on average turnover of last three years is above **Rs.**_____ **(Rupees** _____).
2. My/our residual financial capacity duly excluding all other contracts already having been awarded in favour of me/my firm for the period _____ to _____ is Rs_____ (Rupees_____).
3. It is certified that on securing the contract (S) for which I/We have applied now, my/our overall financial capacity will not be exceeded.
4. I am/We are fully aware that my/our firm is liable for action as per rules in case the above declared facts are found to be wrong.

Dated :

(Signature of the Seller/Proprietor/Partner/
Power of Attorney Holder (alongwith stamp of firm))

Appendix B**(To be given on Company Letter Head)**

To,

SUB: ACCEPTANCE OF TERMS & CONDITIONS OF BID

Reference Bid No : _____ dated _____

Name of Bid / Work: **Supply of (Meat / Perishable Item(s) as applicable) at Supply Depot _____.**

Dear Sir,

1. I / We have downloaded the Bid document(s) for the above mentioned 'Bid/Work' from the GeM portal as per your Bid referred above published on GeM Portal.
2. I / We hereby certify that I/we have read entire terms and conditions which include the Service Level Agreement (SLA), General Terms and Conditions (GTCs) and the Additional Terms and Conditions (ATCs) of this bid document (including all Appendices), which will form part of the contract agreement and I / we shall abide hereby the terms / conditions / clauses contained therein.
3. The Addendum(s) / Corrigendum(s) issued from time to time by your department/ organizations too have also been taken into consideration, while submitting this acceptance letter.
4. I /We hereby unconditionally accept the conditions of above mentioned Bid document(s) Addendum(s) / Corrigendum(s) in its totality / entirety.
5. The documents uploaded on the GeM Portal are true copies of the original documents.
6. In case any provisions of this Bid are found violated, your department/ organization shall be at liberty to reject this Bid and invoke provisions of the Bid Security Declaration / forfeitour EMD and we shall not have any claim/ right against your department/ organization in satisfaction of this condition.

Yours Faithfully,
 (Signature of the Seller, with Official Seal)

PERFORMANCE BANK GUARANTEE FORMAT

From:
Bank _____

To,
The President of India
Ministry of Defence,
Government of India
New Delhi

Dear Sir,

1. Whereas you have entered into a contract No. _____ dated _____ (hereinafter referred to as the said Contract) with M/s _____, hereinafter referred to as the "Seller" for supply of goods as per Part-II of the said contract to the said Seller and whereas the Seller has undertaken to produce a bank guarantee. Bank Guarantee amount will be calculated based on value of estimated quantity of supplies which during the period of contract is as under amounting to _____ to secure its obligations to the President of India. We the _____ bank hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of the Seller that, in the event that the President of India declares to us that the goods have not been supplied according to the Contractual obligations under the afore mentioned contract, we will pay you, on demand and without demur, all and any sum up to a maximum of _____ Rupees _____ only. Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. We undertake to effect payment upon receipt of such written demand.:-

(a) Three percent of the value of the contract.

(b) Amount arrived at to be rounded off to the nearest hundred.

2. We shall not be discharged or released from this undertaking and guarantee by any arrangements, variations made between you and the Seller, indulgence to the Seller by you, or by any alterations in the obligations of the Seller or by any forbearance whether as to payment, time performance or otherwise.

3. In no case shall the amount of this guarantee be increased.

4. This guarantee shall remain valid for months from the date of JRI acceptance of test consignment in India or until all the store, spares and documentation have been supplied according to the contractual obligations under the said contract.

5. Unless a demand or claim under this guarantee is made on us in writing or on before the aforesaid expiry date as provided in the above referred contract or unless this guarantee is extended by us, all your rights under this guarantee shall be forfeited and we shall be discharged from the liabilities hereunder.

6. This guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the Bank or in the constitution of M/s _____.

Dated :

(Signature of the Seller/Proprietor/Partner/
Power of Attorney Holder (alongwith stamp of firm)

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS)
(DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 390 : LIVE STOCK (SHEEP/GOATS)**Quality**

1. The animals shall be well nourished, in good condition and free from any appearance of ill health. If the dressed carcass of any animal (otherwise fit for slaughter) is likely to contain more than 33 $\frac{1}{3}$ percent bones, such animals shall NOT be accepted for slaughter. In all respects, the supply officer will be the final authority for acceptance or rejection of animals tendered by a contractor.
2. No female sheep or goats which are pregnant will be accepted for issue to troops. Where however, restrictions are imposed by the Central or State Government on the slaughter of female animals during the breeding seasons, no female stock will be accepted during such season.
3. Animals falling under any of the under mentioned categories shall Not be slaughtered or purchased for slaughter:-
 - (a) Age below 2 $\frac{1}{2}$ years, when they possess six permanent incisors, all in wear.
 - (b) Female goats below 2 years when they possess four permanent incisors all in wear.
 - (c) Male goats and sheep (castrated or entire) below 1 year.
 - (d) Goats and Sheep above six years.

Inspection

4. Inspection will be carried out by the army veterinary officer/veterinary assistant surgeon or the local supply officer, if the former is NOT available and will bear the brand of the inspecting officer.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)
DEFENCE FOOD SPECIFICATIONS-2020
SPECIFICATION NO 404 : POULTRY LIVE (FOWL/CHICKEN)

Quality

1. Poultry live (Fowl/Chicken) shall be healthy and well nourished birds of good confirmation. The birds tendered shall be plumpy (i.e. the breast bone being well covered with flesh).

2. The birds shall be of the following age and weight:-

	Age in Weeks	Live weight in Kg	
		Min	Max
(a) Broiler	6-10	1.5	2.0
(b) Culled fowl/chicken	52-72	1.5	2.5

3. For definition of birds mentioned above refer to Appendix 'A' to this specification.

4. Under normal circumstances broiler will be acceptable however, under exceptional circumstances at the discretion of the CFA culled fowl/chicken may also be accepted. Ducks, jungle bird fowl, waterfowl, turkey, guinea fowl, or any other bird shall not be acceptable.

5. The eyes of the live birds shall be healthy, bright, nostrils free from discharge, combs and wattles firm and bright in colour, feathers glossy, movements active and showing no evidence of diarrhoea or any other disease or infection. The birds shall be free from diseases/infections of all types.

6. The proof of age of the birds shall be assessed by the colour of the feather, flexibility of the breast bone cartilage and colour of the combs and wattles through visual inspection (see appendix 'A' to this specification).

7. The birds shall be inspected before acceptance by an Army Veterinary Officer. Where no Army Veterinary Officer is available, such inspection will be carried out by the local Supply Officer.

**FOR POULTRY LIVE
(FOWL/CHICKEN)**

1. Definition of Broiler:-
 - (a) Broiler : A young meat type chicken 6 to 10 weeks of age of either sex, that is tender meat with soft, pliable, smooth textured skin, flexible breast bone, white feather and yellow skin.
 - (b) Culled fowl/chicken: A matured fowl/chicken of either sex, 52 - 72 weeks of age with toughened and darkened meat and non flexible breast bone due to hardening of the cartilage.
2. Identification of age :-
 - (a) A young fowl/chicken shall have glossy feather, bright, firm and sharp pointed combs, legs with smooth small scales and unfeathered shanks. The male birds shall have spurs which are small and under-developed.
 - (b) The older birds have faded, worn-out and broken plumage. The birds are generally dark in colour and have a coarse body texture with toughened muscle fibre with non flexible and hardened breast bone cartilage.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 357: EGGS FRESH

Quality

1. The eggs shall be fresh hen eggs of good size. The weight of single tray of eggs bearing 30 eggs (excluding the weight of tray) shall not be less than 1500 gm.
2. The shell of the eggs shall be sound and free from cracks, stain, discolouration and adhering excreta/foreign matter. Cracked and dirty eggs shall be discarded.
3. However, eggs having adhering excreta or extraneous matter but cleaned with water and dried may be accepted.

Inspection

4. The eggs shall be subjected to following tests for adjudging its degree of freshness :-

(a) **Salt Water Test.**

- (i) Eggs which sink to the bottom when immersed in 10% salt solution are fresh eggs.
- (ii) Eggs which afloat at the centre or float on the top of 10% salt solution shall be discarded/rejected being either marginally stale or definitely bad.

- (b) **Light Test.** This test shall be carried out on a properly made commercially available or improvised box constructed as per Appendix 'A' to this Specification :-

- (i) Eggs when viewed against light in vertical position by placing on the holes of the box one by one shall be transparent. Such eggs are fresh ones.
- (ii) Eggs which are opaque or translucent shall be discarded being stale eggs.

- (c) **Visual Test** : Egg shall be broken into two halves in such a manner that the membrane of the egg yolk is not ruptured. Pour the contents of the egg on a plate and observe the shape and size of the yolk and spreading of the egg whites for following inferences in regard to the state of freshness of the eggs :-

- (i) Egg yolks having good close and compact shape with bulged height and egg whites close to the yolk. Such eggs are less than 3 to 4 days old.
- (ii) Egg whites spread out and egg yolk enlarged to slightly bigger size with slight depression of the bulge. Such eggs are around 7 to 9 days old.
- (iii) Egg whites spread out in irregular shape and egg yolk flattens and increases to about double the size. Such eggs are around 15 days old.
- (iv) Egg yolk and egg whites mix up into a liquid. Such eggs are deteriorated and bad.

Packing

5. The fresh eggs shall be tendered in virgin machine made paper pulp trays for inspection and acceptance by the supply officer whose decision shall be final and binding. Re-cycled paper trays shall not be used. The paper pulp trays used for packing fresh eggs shall be clean, sound, dry and free from signs of any damage. The cost of egg tray & any other PM is already factored by the contractor while quoting the rates and therefore he shall have no claim for these to be returned to him.

"CONSTRUCTION OF LIGHT TESTER FOR EGGS FRESH"

1. Take a wooden box of suitable size with detachable lid.
2. Make number of holes in the top lid (diameter of holes shall be around 30 mm) to make egg stand in vertical position on its tapered end.
3. Paint interior of the box with good ultra white enamel paint.
4. Fix an electric bulb of 100 watts to provide sufficient illumination alongwith electricity connection, off/on switch, cord etc.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 363 : POTATO FRESH

General

1. The potato is the modified stem form of *Solanum tuberosum* which has abundantly grown varieties available in various parts of the country viz Gola, Phulwa, Surkha, Imported Form, Up-To-Date (Disease-free clone), Darjeeling Red Round, Craig's Defiance, Great Scot, President, Kufri (Red, Kuber, Kisan, Kundan, Safed, Kumar, Neela) and newly improvised varieties of Kufri (Sindhuri, Chandramukhi, Khasi-Gare, Chamatkar, Neelamani, Sheetman, Jyoti, Alankar, Lauvkar, Dewa, Badshah, Bahar, Sherpa, Himalini, Lalima, Muthu). These varieties of potatoes grow during various seasons and different parts of the country.

2. Crop Seasons the potatoes are grown in two seasons and these are called as the summer crop and winter crop.

(a) The summer crop (or rainy season crop) is planted during April-June and is ready by July and continues upto September.

(b) The winter (or besike) Crop is planted during October-December and is ready by February-March.

Quality

3. The potato fresh shall be the one from the crop in season and freshly dug. These shall be of similar varietal characteristics, washed well and graded uniformly for size for individual supplies. Fresh potatoes shall be of average size so that they should not pass through a circular sieve having aperture 5 Cm x 5 Cm and should not retain on a circular sieve having aperture 10 Cm x 10 Cm. The fresh potato shall be sound, wholesome and of a proper stage of maturity, with round (flat) or pebble round (spherical), pear shaped, long oval, short oval, or oval shapes and must be free from malformed and spindle shape tubers. Fresh potato shall be in a pronounced state of rest, free from signs of sprouting, injury, cuts bruises, shrinkage, physiological disorder, insect damage, disease and any type of discolouration.

(a) The colour of fresh potato skin shall be russet, pale yellow, red, with netted or smooth eyes. These eyes shall also be free from discolouration.

(b) The colour of potato fresh shall be white or slightly pale yellow with mealy or firm texture and shall be totally free from discolouration of any type, rings, irregular patches or brittle flesh.

(c) Potatoes shall be free from soft wet cracking surface, watery, white to milky or cream coloured exudate and lesions. The lesions are deep pit extending upto 5 cm or more to the tuber flesh, hard and chalky, cheesy, leathery, bumpiness, necrosis around lenticles and growth cracks.

(d) Potatoes shall be washed well, cleaned, dried and freed from any contaminant, attached dirt/filth or any other material injurious to health.

4. Supplies ex Cold Storage the supplies of potatoes ex cold storage can be accepted during off seasons when fresh crop is not available in the market subject to the condition that the supplies shall conform to the quality requirements as laid down above in addition a strict norm shall be followed for the cut-off period for such supplies. A maximum period of twelve weeks of storage supplies could be accepted in extreme conditions. In no circumstances while the fresh potatoes are available in the market potato stocks ex cold storage shall be tendered/accepted. However in case where such supplies have to be accepted they shall be checked for the additional defects arising during storage in cold condition. Therefore such stocks shall be free from all above mentioned defects in addition shrinkage, light weightness of tubers, undesirable sweet taste, mahogany browning, stem and browning, greening, damages due to desiccation, holly heart, decay, bruising stringy, slimy and mucous discolouration or mucous discharge of tuber tissue/oozing from lentils. These shall be properly thawed and cleaned dried.

Inspection

5. The potatoes fresh will be inspected for the prescribed quality and will be approved by the Supply Officer after his careful inspection and having found supplies conforming to this Specification. The potatoes fresh shall be supplied in suitable clean containers designed to protect the potatoes from damages, deterioration and contamination of any kind. These containers shall be washed well, disinfected and dried before packing potatoes.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 362 : ONION FRESH

General

1. The onion fresh is the bulb of plant *Allium cepal* L and for the scope of this specification it is required to be dry cured and of the varieties grown in the country. Some of the varieties are as follows:-

- (a) **Yedugiri or Bellary**. The bulb of this onion is of flesh (buff) colour and has thickness ranging from 5 to 10 cm across at maturity, widely grown in Andhra Pradesh, Maharashtra, Karnataka and Gujarat.
- (b) **Dhulia**. The bulb dimensions are same as that of Bellary but colour of bulb is on light red to deep red side.
- (c) **Medium Varieties**. This is yet another variety widely grown in all regions of country. The colour of the bulb ranges from light rosy to pink colour but smaller in size ranging from 2 to 4 cm across. These varieties are strongly flavoured.
- (d) **White Variety**: The bulb of this onion is off white to rosy and of good size and thickness ranging from 5 to 10 cm across at maturity. These onions are low in flavour and pungency.
- (e) **Early Grano**. This variety has been introduced from USA and has large globular, yellow bulbs which are mildly pungent and are good for salads.
- (f) **Pusa Red**. This variety is medium sized red coloured onion and keeps well.
- (g) **PusaRatnar**. This variety is large sized, high yielding, red coloured onion and keeps well.
- (h) **PusaMadhavi**.
- (j) **Pusa white rounds and Pusa white flat**.
- (k) **Small sized onions**
 - (i) Some what elongated and
 - (ii) Globular and almost round.

These are basically pickling varieties or in recipes in which wholes are utilised. These varieties are of different colours ranging from white to purple, strongly flavoured and pungent.

2. **Crop Plantation Digging**. The crop takes 4 - 5 months from plantation and normally two crops are grown to take care of round the year requirements of onions. The first crop

plantation is done during middle May to mid June and that of second during mid November to mid December.

Quality

3. An appropriate variety in season from 1 (a) to (k) shall be approved and accepted for supply. The colour of onion shall be characteristic of its variety. The onion shall be mature, reasonably firm viz not tangibly soft or spongy. May have developed more than one distinct bulb joined only at base. Shapes like flattened globe, globe, high globe, spindle are normal shapes for onion. Onion bulbs shall be dry, well formed and give a rustling noise when handled. They shall be well cured with tough clinging skins and closed necks. Tops when present shall not exceed 2 cm in length and such onions shall not constitute more than 20% by weight of supply. Damaged onions are the onion bulbs, the appearance or the edible or marketing quality of which is materially affected by splitting, dry sunscald, sunburn, staining, sprouting, seed steams or mechanical injuries. Onion with these defects shall be rejected. Various types of damages of onions are indicated as under and onion fresh shall be free from all such defects:-

(a) **Splitting**. A split onion having more than one distinct bulb shall be considered as damaged when not completely covered by an outer scale and not well cured.

(b) **Dry Sunscald**. Softening of the tissues of not well cured onions due to exposure to the sun shall be considered as damage by sunscald. If dry and well cured, an onion shall be considered as damaged by sunscald when the injury is more than alight and is readily apparent without peeling it, except when affected area is dry and so inconspicuous that the appearance of onion is not materially injured.

(c) **Sunburn**. Is the discolouration of onions due to exposure to the sun where there is no injury to the tissue. Individual onions shall be considered damaged when this burn exceeds 25% of the total area.

(d) **Sprouting**. Onions are those which have visible sprouts.

(e) **Rooting**. Onion exhibiting development of fresh roots shall be considered as damaged.

(f) **Staining**. Onions showing discolouration caused by weathering or other causes seriously affecting the appearance and its natural smell shall be considered as damaged. Onions shall be free from black powdery material on the outer scales or in between the outer and first scale, also from small dark green to black dots that appear on the outer scales in the form of concentric rings or blotches.

(g) Onion shall be free from soft fleshy scales, if pressure on the bulb forces, a watery, foul smelling liquid, through the neck or on such pressure some of the scales slip off. And also grassy, water soaked, Pale-yellowish to light brown or yellow tissue often slimy with vinegar odour and soft spongy scales. They shall be totally free from signs of sweating or moisture condensation, dirt, dust filth or any other material not component of onion bulbs.

(h) **Size**. Onion supplies shall be of uniform and fairly well graded for size and the smallest size of onion shall not pass through a circular sieve having aperture 5 Cm x 5 Cm.

(j) **Taste and flavour**. The onion shall have the characteristic pungent taste and flavour of onion. The bulbs shall be free from any off taste, smell or odour.

4. **Supplies Ex Cold Storage**. The supplies of onion ex cold storage can be accepted during off season months when fresh crop is not available in the market subject to the condition that the supplies shall conform to the quality requirements as laid down in this specification. However, in all such cases while stored supplies are accepted they shall be carefully checked for the additional storage defects and rejected in case found to have suffered any such damage/storage damage.

Inspection

5. The onion supplies shall be inspected for the prescribed quality and will be approved by the supply officer after his careful inspection and having found supplies conforming to this specification. The onion shall be supplied in suitable clean, dry containers designed to protect the onions from damages deterioration, sweating, decay and contamination of any kind. These containers shall be washed well, disinfected and dried before packing the supplies.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS)
(DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 360 : VEGETABLE FRESH

General

1. The fresh vegetables will be crisp, well formed, of proper tender maturity and shall not be with coarse fibres, stringy, old or hard due to over age and over growth, spongy or fluffy due to age. The vegetables shall be those in season commencing from early season arrivals and also late season receipts. These will be freshly gathered, cleaned, graded for soundness and wholesomeness. Botanically fruits of plants, roots, leaves, stems, flowers and modified forms of stems, roots and leaves constitute vegetable fresh for human consumptions.
2. The vegetable fresh shall be free from insect infestation, physiological disorders, blemishes of damage and disease. They shall also be free from discolouration, injury, damage or signs of improper storage, handling and transportation, which renders them a poor look as to the freshness.
3. The vegetable fresh shall be free from rotting, coating of waxes, mineral oil and colours.
4. All mandatory requirements of FSSAI Rules, as amended from time to time, pertaining to this specification shall be complied with.
5. The vegetable can broadly be classified into :-
 - (a) Root varieties.
 - (b) Creeper varieties.
 - (c) Leafy varieties.
 - (d) Fruits/surface/over ground varieties.

Root Varieties

6. This category includes the modified roots and stems used as food like Arvi, Carrots, Radish, Turnips, Ginger and the like. The important features of these varieties are discussed in succeeding paras.
7. These vegetables shall be well formed and not forked or misshapen, over or under-grown. The surface shall be characteristic of type but free from growth cracks/hardened body and fibrous cores. The leaves of root vegetables shall be removed 5 cms from the crown and trimmed to remove tail and root portion.
8. **Arvi**. It has a wide range of physical classification, starting from small sized bulbs to large sized bulbs from round shaped to faizabadi elongated long sized Arvi. Arvi shall be soft in texture, free from field fungal diseases and hardening of bulbs which is evident with partial decay of degeneration of portion of bulb.
9. **Carrots**. The varieties of carrots range from golden yellow, light red, bright orange-red to deep orange-red colour. The greenish white or country carrot and also yellowish white are hard, coarse and insipid. Carrots should be smooth and regular, of good size, should break crisp, having a fine skin and sweet tender flesh. It should not be tough, stringy with leathery skin, fibrous flesh or with excessive heart. The varieties of carrots are namely PusaKesar, PusaMeghali and Half-long-Nantes, PusaYamdagni & coreless. The size of carrots shall be not less than 12 cm and not more than 30 cm. Top should be denuded of foliage.
10. **Radish**. The radish varies in size according to the area in which it is grown. They should be smooth and regular, of good size, should break crisp, having a fine skin, juicy and of good flavour. It should not be tough with fibrous flesh and wanting in flavour which indicates inferior quality and overgrown roots.
11. **Turnips**. The turnip belongs to the family cruciferae, genus Brassica and species rapa. They should be clean and fresh in appearance, of good size and regular shape, free from all cracks. The flesh should be crisp, tender, fine grained, solid, sweet, juicy and of good flavour. Loose wrinkled skin, softness, discoloured appearance due to staleness, and bad storage are chief defects. Toughness, cracked skin, hard and fibrous flesh and wanting in flavour denote inferior quality and overgrown roots. The top shall not be more than 1.0 cm.
12. **Ginger**. It is the bulbous root of ginger plant. It should be fresh, should break crisp, having a fine stain, tender and juicy flesh. It should give a slightly bitter taste. Bruised and discoloured skin are caused due to bad packing and rough handling. Toughness, hardness and excessive fibrous flesh wanting in juice and flavour indicate inferior quality and overgrown roots.

13. **Beet Root (Chukandar).** Well formed bulbs, proper stage of maturity with soft secondary roots of bright reddish purple colour. These bulbs will be free from sogginess and attacks of field fungi or disease. Max numbers of Beetroot in a kg can be 10 with each single piece not less than 100 gms.

Creeper Varieties

14. The vegetable like, beans, cucumber, pumpkin, snake gourd, tinda, bitter gourd, chappankaddu, marrow, ridge gourd, ribbon gourd, tori ghia, tori jhinga and long melon etc. form part of this category of vegetables. These vegetables are susceptible to damage by field fungi and various other insects, thus, making them unsuitable for human consumption.

15. These vegetables shall be well formed, tender of proper stage of maturity. Surfaces not facing sun may have little under distribution of chlorophyll thus slight light yellow in colour, this should not be taken as a major defect. Skin shall be moist, smooth and with velvety feeling. Presence of hard seeds, hard skin, bitterness, shrinkage and physiological disorders are defects and vegetable with these defects shall be rejected. The details of vegetables are discussed in succeeding paras.

16. **Beans.** This category includes cluster beans, broad beans, french beans, soya beans, moong beans, bengal beans etc. They should be young, tender and fleshy, not hard, wrinkled, stringy or discoloured.

17. **Cucumber.** It should be smooth and regular, of good size and shape, should be filled with tender flesh and seeds. It should not be over ripe, loose or with wrinkled skin which denote staleness. The cucumber shall be of varieties namely Field Grown slicing or Table -sorts, Packing varieties and Forging or Green house varieties of size between 8 cm and 50 cm.

18. Snake gourd, Ridge gourd, Ribbon gourd, Sponge gourd, Tori ghia, Tori Jhinga and Squash. These should be smooth, tender and of good size. The colour is normally fresh light green and not yellowish or rusty brown which denotes staleness. The interior should be fleshy, soft and tender, not hard and stringy which denotes over ripeness or inferior quality.

19. **Pumpkin.** It should be of good size with tender skin. It may be of fresh green colour to rusty brown. Once it is fully matured and turns into rusty brown colour, it can be stored for long period. The skin should be free from any damage and field fungi or disease. The damage on outer skin is the sign of bad handling and storage.

20. **Tinda.** It should be round shape with smooth skin of fresh light green colour or they may have fresh off white velvety appearance. The interior should be fleshy with small and soft seeds. The skin should be soft and tender and not hard which denotes over ripeness or inferior quality. The hard seed also conform over ripeness of tinda.

21. **Bitter Gourd.** It should be of good size and shape with bright green colour knotted skin. It should break crisp and have tender flesh. The yellowish or rusty brown colour indicates over ripeness or inferior quality.

22. **Chappankaddu.** This should be smooth and regular of good size, having fine skin and sweet tender flesh. Hardness of skin and seeds and wanting of flavour denote inferior quality and over ripeness.

23. **Marrow.** It should have fresh green colour tender skin. The interior is filled with soft whitish pulp and tender seeds. Hard yellowish skin and hard seeds indicate over ripeness and inferior quality. It should be free from any damage and disease.

24. **Long Marrow.** It is normally ribbed and long shaped of fresh green colour with velvety appearance. The interior flesh is filled with soft tender seeds and watery pulp. The yellowish colour, hardness of skin and seeds denote over ripeness and inferior quality.

Leafy Varieties

25. The vegetables like amaranth, lai sag, fenugreek, cabbage, karam sag, rape sag, spinach, coriander green, mint green etc. form part of this category.

26. Amarnath, Lai sag, Fenugreek, Karam sag, Rape Sag, Spinach (Including Aizoaceae, Buck Wheat, Sarren, Chakwatetc), Bathua, Coriander green and Mint green. The leaves of above varieties vary in size and shape. They should be fresh, bright, soft and succulent, not stale withered and dry due to being kept too long or exposed to the sun after being plucked. The leaves should be free from disease and any type of infestation. Tough, coarse and stringy leaves denote that the crop is over grown, has been badly cultivated or is of inferior quality. These will be properly trimmed and will be free from roots, stumps, hard stalks and extraneous leaves.

Fruit/Surface/Overground varieties

27. Peas green, knol-khol, brinjal, cauliflower, cowpeas (lobia green), ladies finger, plaintain green, tomatoes, capsicum, chow-chow green papaya, jack fruit, marrow, nadroo (kamalkakri), parwal, squash, chillies green and coconut whole etc. are from this category of vegetables. The details of above varieties of vegetables are discussed in succeeding paras.

28. **Peas**. The pods should be of fresh green colour, crisp, juicy and of good size. They should be well filled with fresh light-yellow, green, dark green or white unwrinkled peas of good size, tender, thin-skinned, sweet and full flavoured. Over ripe, flat ill filled pods containing a few puny small peas, denote inferior quality and bad cultivation. Dull, yellowish green, hard pods containing hard dry light peas are stale and bad. Peas attacked by insects will be empty and light in weight owing to kernel having been eaten up. The peas are of varieties namely Early variety (Asauji and meteror smooth seeded varieties), Early badger (A wrinkle -seeded, dwarf variety), Arkel (A wrinkle seeded high yielding dwarf variety), Mid season (Bonneville: Wrinkle-seeded, double podded, medium tall variety) and late variety (N.P.29: wrinkle seeded). Varieties suitable for hills: Early Giant (Dark pods with wrinkled seed) and Alderman (Pods more or less straight nearly 9 cm in length)

29. **Knol-Khol**. They should be clean and fresh in appearance of good size and regular shape. It should have well formed body and soft flesh. The discoloured appearance due to staleness and bad storage are chief defects. Toughness, hard and fibrous flesh denote inferior quality.

30. **Chow-chow and Brinjal**. The colour of brinjalvaries, they may be white to yellow or dark purple. They should have fresh looking shiny skin. The thinner skin, the better the brinjal. It should be well filled with soft greenish pulp and tender seeds which should not be in excess. It should not be over-ripe, loose or with wrinkled skin which denotes staleness.

31. **Cauliflower**. This should have large, firm snowy-white compact head of uniform closeness. Any tinge of green or yellow indicates inferior quality. Some varieties of good quality when fully matured, become suffused with violet. The less foliage the better, small dark spots or soft spots denote decomposition. They should normally be delivered with two layers of leaves of sufficient length to protect the flower and stalk removed. The varieties of Cauliflower are classified as Early (Kunwari or Kauri and Early Patna available from mid-September to mid-October), PusaKetki and PusaDeepali available in October -November Mid-Season (Aghani, Poosi, Patna Main Crop, plant Shubhra -available from mid-November to mid-December. Early snowball, Giant Snowball, D-96, Japanese Improved, PusaShubhra - available from mid-December to mid-January) and Late (Dania-available in January February, snowball -16 Pusa snowball 1-2 and PusaHimjyoti-available from mid-January to April)

32. **Cowpeas (lobia green)**. They should be young, tender, fleshy and filled with soft and tender seeds. These should not be hard, fibrous, wrinkled, stringy or discoloured.

33. **Ladies Finger or Bhindi**. The pods of these vary, some are ridged, others are not. The colour is either fresh, light green or they have fresh white velvety appearance, not yellowish or rusty brown denoting staleness. The interior should be fleshy and seeds small and soft. A dry and stringy interior, with hard seeds is due to over ripeness. The skin should be soft and tender not hard and stringy which denotes over ripeness or inferior quality. The ladies finger are of varieties namely Makhmali, PusaSqwani, Perkin's Long Green, VaishaliBadhu, Punjab Padmini and ParbaniKranti. The tail end of ladies finger shall break crisp without any signs of fibrous formation.

34. **Plaintain Green**. These should be smooth and regular with fresh appearance. It should break crisp and interior should have good creamy white pulp. Toughness, cracked skin and wanting in flavour denote inferior quality. These are available in different sizes according to the area where these are grown.

35. **Cabbage**. These will be green in colour, should be fresh, crisp and firm with a large compact heart and as few loose outer leaves and as little stalk as possible. The different varieties of cabbage are Round head or Bell head type, Flat head or Drum head type (Pusa Drumhead), Conical head type (Jersey wake field) and Savoy type (Chieftain).

36. **Tomatoes**. These should be of good fresh appearance and ripe colour, good size, firm, solid, plump, well filled and heavy. The flesh should be plentiful, rich, solid, tender of good colour. It should have a pleasant, not too bitter flavour. Smaller the core and less seeds the better the tomatoes. Greenish, tough skinned, lumpy and sour flesh (due to unripeness) dry wrinkled, discolour skin and a watery pulpy interior shows staleness and poor quality. Bruised and discoloured tomatoes are caused due to bad packing and rough handling and loose their taste and flavour. The different varieties of tomatoes are Pusa Early Dwarf, PusaFuby, Sioux Marglobe, Best of all, La Bonita, Pusa 120, PusaSheetal, PusaGaurav, Italian Red Pear and Rema.

37. **Chillies.** These will be of good size as per variety with fresh and bright in appearance. Should break crisp, well filled with soft seeds and free from field fungi or any other disease. Loose or damaged skin denote bad handling/storage and inferior quality. The size of individual chillies shall not be less than 2.0 cm.
38. **Capsicum.** These will be of bright green colour, fresh and break crisp. The skin will be light, solid and free from any damage due to handling, storage or disease. The interior will partially contain tender seeds. Discoloured capsicum with hard seeds are over-ripe and lose their taste and flavour.
39. **Green Papaya.** It should be smooth and regular of good size, well shaped of green colour. The skin should be thin with creamy white pulp, minimum of seeds and pleasant flavour. The discoloration and damage to skin are the sign of long storage and bad handling.
40. **Parwal.** These should be smooth and regular, of good size and shape with fine skin and tender flesh. The interior will be filled with creamy white pulp and soft seeds. The hard seeds and discoloration of skin are the signs of over ripeness and staleness.
41. **Jack fruit.** This should be of green colour, solid, young and good size. The interior should be filled with whitish pulp and tender seeds. When cut the milky substance, should come out. If it is over mature, it can not be used as vegetable, should be free from any disease and softness of skin shows the sign of staleness and long storage.
42. **Fresh Lime (Kaagzi Nimbu).** Fresh lime shall be of two types namely round and oval. The lime fresh shall show a green rind colour just beginning to turn yellow or uniform golden yellow, rind not soft or flabby, shall be free from bruises, injury, damage, canker and discoloration. The minimum weight of single fresh lime shall not be less than 30 gm and maximum number to a kg shall be 33.
43. **Radish Fruit (Singri).** On maturity the radish top bear fruit which are used as vegetable. They are bitter in taste and when cooked produces excellent vegetable. The fruit pod is a cilicle which is about 2.5 to 7.5 cm in length and does not become open to discharge the seeds at maturity. Best used when the seed is very tender inside the pod.
44. **Leek.** The leek resembles the onion in its adaptability and cultural requirements. Instead of forming a bulb the leek produces a thick, fleshy cylinder that has the characteristics of large green onion. The main varieties of leek are London flag and American flag. Under favourable conditions they grow to 4 cm in diameter or more and from 15 to 20 cm in length. The plant is larger than onion.

Inspection

45. The fresh vegetables will be subjected to the approval of local supply officer after his careful inspection and having found them conforming to this specification. The decision of this officer shall be final.
46. All vegetables shall be supplied in suitable clean containers designed to protect them from damage, deterioration and contamination of any kind.
47. An excess of earth on root vegetables amount to adulteration, they should be tendered clean. The contractors must not give bright appearance to the vegetables especially of green leaf by washing them. This is important as water used for the purpose is often filthy and germ laden. Some suppliers soak the vegetables to increase weight, which can be detected easily by their damp and sodden feel, and their over bright and pulpy state.

Note:- A regular and proper schedule of supplies shall be drawn by the contract concluding authority from the various genus of vegetables as reflected at Appendix 'A'. The instructions at Appendix 'A' shall act as guide to officers concluding and operating the contract and will not form part of the tenders.

THESE INSTRUCTIONS ARE ISSUED FOR THE GUIDANCE OF OFFICERS CONCLUDING AND OPERATING CONTRACTS AND WILL NOT FORM PART OF THE TENDER

The vegetables shall be selected from the following kinds only :-

GENUS `A'

1. Beans cluster (Gowar)
2. Beans broad (BaklaSem)
3. Beans French (VilaytiSem)
4. Soya beans
5. Moong beans
6. Bengal Beans
7. Brinjals (Baigon)
8. Cauliflower (PhoolGhobi)
9. Lady Finger (Bhindi)
10. Peas green (Hari Mutter)
11. Pumpkin (PethaKaddu)
12. Cowpeas
13. Cucumber (Khira)
14. Snake Gourd
15. Tinda
16. Arvi
17. Plantain green

GENUS `B'

1. Fenugreek (Methi)
2. Carrots Country (Desigajar)
3. Cabbage (Band Ghobi)
4. Spinach country (Deshipalak)
5. Rape Sag (Sarson) stem
6. Rape Sag (Sarson) leaves
7. Tomatoes ripe
8. Amaranth (Chulai Sag)
9. Carrots English (VilayatiGajar)
10. Lai Sag
11. Karam Sag
12. KnolKhol (GanthGhobi)
13. Bitter Gourd
14. Leek
15. Bathua

GENUS `C'

1. Corriander green (DhaniaSabz)
2. Ginger green (Adrak)
3. Chillies green
4. Mint green (Podina)
5. Coconut whole
6. Fresh Lime (KagziNimbu)

GENUS UNCLASSIFIED

1. Jack fruit green (Kathal)
2. Parwal (Oarwar)
3. Raddish country (DesiMuli)
4. Turnips (Saljam)
5. Bottle gourd (Ghia)
6. Marrow (Kaddu)
7. Long Melon (Kakri)
8. Chow chow (a type of Baigon)
9. Tomatoes green
10. Spong gourd (a type of Tori)
11. Ridge gourd (a type of Tori)
12. Tori Jhinga

13. Green papaya
14. Capsicum
15. Nadroo
16. Ribbon gourd
17. Radish Fruit
18. Squash
19. Beet Root (Chaukinder).

The varieties of vegetables to be supplied will be fixed by the local authority making the contract in consultation with the local agricultural and medical authorities concerned. A list of these vegetables, based on the kind, either locally grown or imported, shall be prepared and included in the contract.

Local varieties if approved by Army Medical authorities may be included in the list.

Note :-

(a) **Genus `A'** Vegetables of this genus, taken altogether should not be less than 35% and not more than 40% of a day's vegetable ration.

(b) **Genus `B'** Vegetables of this genus should be taken for a day's vegetables ration as under :-

During Season

During off Season

(Nov to Mar)
Not less than 35%

(Apr to Oct)
Not less than 25%

Every effort will be made to supply Genus `B' items as specified. But the shortfall may be made up by items other than from Genus `C'.

(c) **Genus `C'** Vegetables of this genus, taken altogether should not exceed 5% of a day's vegetable ration.

(d) **Genus Unclassified.** Balance of a day's vegetable ration should be taken from this genus.

(e) Genii percentages will be completed on fortnightly basis except in ASSAM, MEGHALAYA, NAGALAND, ARUNACHAL, MIZORAM, TRIPURA, MANIPUR and NORTH BENGAL including SIKKIM in Eastern Command where it will be completed on a monthly basis. The genii percentages of items under Genus 'C' which are for garnishing purposes will, however, be completed on daily basis. It will be ensured that :-

(i) Variety is provided and no monotony is allowed to occur in the diet.

(ii) Green leafy vegetables are issued within short periodicity.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS)
(DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT) DEFENCE
FOOD SPECIFICATIONS-2020

SPECIFICATION NO 359 (REVISED) : FRUITS FRESH

PART- I: GENERAL SPECIFICATION

Quality

1. **General.** All fruits fresh will be fresh, ripe, sound, sweet, wholesome, mature, well formed, firm, of good even size. It will have characteristic colour, taste, aroma, shape and visual appearance, as applicable to each fruit fresh and its varieties. The fruit fresh should mature naturally on trees or under normal storage conditions. It will be practically free from insects and pests infestation (live or dead) and foreign matter and totally free from fungal or bacterial rot (skin or pulp). It will have no holes, cuts, cracks, wounds or bruises (indented or water soaked). It will have no discoloration of skin, internal break down, browning, scabs, wrinkled or water soaked skin, blemishes, physical injury, diseases or any other defects. Physiological disorders and temperature injury (heat, chill, freeze) should not be seen in it. It will also be free from signs of improper storage, handling and transportation. It will not be bland, bitter, sour in taste, dry/ dehydrated, overripe. It will also be free of any other defects that may have poor visual appeal, injurious to health or poor organoleptic quality.

2. **Cold Storage.** Fruits fresh from cold storage may be accepted provided that it possess all qualitative requirements as applicable to fruits fresh and have not undergone any physiological damage, deterioration or ripening staleness, due to low temperature treatment. Such fruit fresh shall be free from freeze burns and shall be properly thawed. Cold storage fruit fresh in any case will not be accepted during the natural availability season of that fruit fresh, including early and late maturing. These will also be free from abnormal external moisture, excluding slight condensation following removal from cold storage.

3. **Size and Weight relationship.** Fruits fresh will conform to the requirements of size/weight relationship as given in succeeding paragraphs in this specification. Fruits fresh of abnormal shape, size, weight, etc likely due to growth enhancers/hormone injections/genetic modification/etc will be rejected, even if all other aspects of this specification are being met. Abnormality will be arrived at by mutual consent, to be approved by station commander/medical officer. Good average size of fruits mentioned in Part III of this specification will be decided by the Executive Officer considering its purchase.

4. All mandatory requirements of FSSAI and other government bodies, as amended from time to time, pertaining to this specification, will be complied with.

Variety

5. **General.** The type and varieties of fruits fresh for consumption will be selected from those mentioned in this specification. Where specific varieties of a particular fruit fresh have been mentioned the same will be procured. The type (including varieties where applicable) and percentage of fruits fresh will be at the discretion of the Executive Officer in consultation with the local Medical Authorities, if necessary. The type/varieties of fruits fresh which are naturally available in a particular season will be selected as far as possible to derive maximum benefit of freshness and nutrition besides placing minimum reliance on cold storage fruits.

6. **Local Varieties.** Locally available fruits fresh and their varieties (other than those mentioned in this specification) may also be accepted, in case of troop's preference or nonavailability of varieties mentioned in this specification, after general market survey. Size and number of fruits fresh to a kilogram of those selected, will be fixed by the Executive Officer considering its purchase. Such fruits fresh should not exceed 10% of total annual requirement.

7. **Imported Varieties.** Varieties of imported fruits fresh already mentioned in this specification will be acceptable. Imported fruits fresh not mentioned in this specification may also be acceptable, provided troop's preference is there for the same. Survey will be necessary for its availability, acceptability, nutritional content, financial implications, etc. Size and number of fruits fresh to a kilogram of those selected, will be fixed by the Executive Officer considering its purchase. Such fruits fresh should not exceed 5% of total annual requirement.

Inspection

8. **General.** Fruits fresh will be subjected to inspection by local Supply Officer, as per parameters mentioned in this specification and contract clauses therein. After careful inspection and having found fruits fresh conforming to this specification, the same will be accepted. All fruits fresh will be supplied in suitable size containers (CFB, CFC, plastic crates, wooden boxes, baskets, paper boxes, etc other than bags), designed to protect the fruits fresh from transportation related damages and deterioration. These containers will be clean and dry, without any previous remnants/marks/contaminants, before placing the fruits fresh.

Additional cushioning to protect individual fruits fresh may be provided if so reqd, by use of paper, grass, leaves, soft plastic shreds, etc. Stickers individually affixed on fruits fresh when removed, should not leave visible traces of glue nor lead to skin defects. Fruits fresh viz; Grapes, Cherry, Plums, Apricot, Peach and Strawberry will be issued in small size packs only, these will not be emptied for inspection, the inspection will be carried out after opening of upper flaps only, where a detailed check is necessary adequate number of packs may be emptied.

9. **Use of Chemicals**. No chemicals will be administered to the fruits fresh internally or externally to enhance size, colour, taste, ripening, shine, etc. Fruits fresh will not be dipped in water. Preservatives where used must be permitted ones as per FSSAI guidelines and must be within the permissible limits. Residual level of heavy metals, insecticide, pesticides, fungicides and others, for food safety requirements will be complied with as per guidelines of FSSAI or other related Government bodies.

Tolerance

10. **Seasonal Tolerance**. To account for specific regional effects or adverse seasonal impacts on the quality or early/ late seasonal variance or early/ late availability, the same may be approved by the Executive Officer considering its purchase, after ascertaining the facts and communicated in writing to all concerned.

11. **Minor Tolerance**. Without any effect on the nutritional character and palatability of fruits fresh a combined tolerance limit of upto 5% for minor tolerances on surface area, as well as number of fruits fresh, laid down in this specification will be acceptable to accommodate seasonal/crop variations, being an agricultural product.

12. **Weight/Number Tolerance**. Within a particular variety all individual fruits fresh should weigh/number 10% (+/-) of the average weight/number of the fruits fresh. Average weight/number may be obtained by measuring a fair quality of the particular variety of the fruits fresh.

13. **Major Defects**. Fruits fresh showing any major defects as mentioned in this specification will be rejected.

14. Region wise availability including early or late ripening due to natural climatic conditions may be suitably incorporated by the Executive Officer in the schedule. Fruits fresh will be of the same variety, quality, size, and degree of ripeness in one offering. Two or more varieties of a particular fruits fresh will not be mixed during the offerings. Acceptable tolerance will be applicable to all fruits fresh including local varieties.

PART-II : QUALITY PARAMETERS AND DESCRIPTION

GROUP I – MAJOR FRUITS

(Total quantity of this group will not be less than 60% of annual requirement) **Apple (Hindi name – Seb, Botanical name – MalusDomestica)**

1. **Fruit Characteristics**. Apple will be fine grained, sweet, juicy, mature and good smelling. It will be of normal bloom, glossy smooth skin, stem intact (if removed brake should be clean). Colour of apple will be

characteristics of the variety, which generally ranges from creamy white, light green, golden, pink to red with small dots scattered all over. It will be of even size, shape and weight for each variety. It is generally available from August to February.

2. **Major Defects.** It will not have any sign of internal blackening/rotting or degradation of pulp. It will not be distorted or irregular in shape, sour in taste.

3. **Minor Tolerances.** Minor skin blemishes, healed injury on skin (nail, rub marks), minor superficial bruises, natural marks, slightly defect in colour, skin, shape, development, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.**

(a) **Red Delicious.** Fruit is large-sized, oblong-conical in shape, greenish-yellow in colour with red streaks. Flesh is creamy, juicy, aromatic and sweet in taste.

(b) **Starking Delicious.** Fruit colour is greenish-yellow, covered with dark red stripes all over the fruit. Flesh is creamy, juicy, aromatic, sweet in taste with excellent quality.

(c) **Ambri.** Indigenous variety of attractive apple with extra-ordinary keeping quality. Fruit is medium to large in size and oblong in shape. It has red streaks over a greenish-yellow colour background. The pulp is white, crisp and sweet.

(d) **Golden Delicious.** Fruit is medium in size, round - conical to oblong in shape. Fruit colour is greenish yellow which turns to golden-yellow on ripening. Some fruits are half flushed with pale orange. Flesh is creamy, crisp, fine textured, juicy, sweet, little acidic with good aromatic flavour.

(e) **Red Chief.** Fruit size is medium to large, conical in shape, dark in colour and stripes are present on blush. Fruit is uniformly coloured. Flesh is creamy yellow, firm, juicy, aromatic and sweet in taste.

(f) **Red Spur.** Fruit size is medium to large, conical in shape. Fruit is dark red in colour. Flesh is creamy-yellow, firm, juicy and sweet in taste.

(g) **Imported varieties.** Fuji, Honey Crisp, Gala, Braeburn.

(h) **Other Important Varieties.** Red Gold, Macintosh, Sunhari, Khuru, American.

Banana (Hindi name - Kela, Botanical name - Musa Sapientum)

1. **Fruit Characteristics.** Banana will be sweet, aromatic, firm (not soft) with starchy flesh and no foreign smell or taste. It will have normal bright bloom with colour generally ranging from green, yellow to orange. It will be slightly arched to a smooth curvature. Its butt end intact and neck end attached to a bunch. The size of Banana (measurement is over the curvature, across the back) will vary according to variety in the range of 100 - 250 mm. It will be offered in bunches and not in complete cluster (having large number of bunches together). Minimum 95% Bananas will be in bunches. It will be totally free from seeds. It is generally available round the year.

2. **Major Defects.** It will be free of cuts (through the peel into the pulp), hard lumps, excessive scattered brown spots/ flecks. It will be free from heat injury (pilling, blackening of skin), chill injury (dull greyish or blackened peel or brown under peel discoloration), freeze injury (dark water soaked areas).

3. **Minor Tolerances.** Insect damage (dry brown scab), bird/nail damage (scars), physiological disorder (reddish brown discoloration), superficial skin bruises, abrasion, rub damage, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. Recommended Varieties.

(a) **Dwarf Cavendish.** Leading variety of Banana. Fruit is large, curved, skin thick and greenish, flesh soft and sweet. The greenish colour of the fruit is retained to some extent even after ripening, but fruits ripening during the winter season develop yellow colour. Average bunch weighs about 20 kg.

(b) **Harichal.** Fruit is large, skin thick, greenish to dull yellow, sweet and delicious. Average bunch weighs about 20 kg.

- (c) **Nendrun**. Fruit is relatively longer and thicker than most other bananas. The bunch is not compact. Average bunch weighs about 15 kg.
- (d) **SafedVelchi**. This variety is under stray cultivation, the fruit is medium size, firm flesh and sweet. Average bunch weighs about 15 kg.
- (e) **Poovan**. Fruit is medium to small in size, yellow skinned, firm flesh with a subacid taste. It has good keeping quality. Average bunch weighs about 15 kg.
- (f) **Martman**. Fruit is medium size, similar to Poovan in appearance. Skin is thin, ivory yellow in colour, flesh firm, sweet with a pleasant aroma. Average bunch weighs about 12 kg.
- (g) **Champa**: The bunch is cylindrical with closely packed short, stout and bottle necked fruit. At maturity, the fruits are dark green and turn to golden Yellow on ripening. Pulp is Yellowish, juicy soft, tastes a blend of sweet and acidic and a unique flavour. Size of fruit/finger varies from 12 to 14 cm in length and 3 to 4 cm in diameter. Each fruit weighs 65 to 75 gm. 12 to 14 fruits/fingers constitute one Kg.
- (h) **Other Important Varieties**. Robusta, Chinaia, Basrai, Virupakshi, Lal Banana.

Mango (Hindi name- Aam, Botanical name –MangiferaIndica)

1. **Fruit Characteristics**. Mango will be mature, ripe, firm, juicy, yield slightly to finger pressure, smooth thin skin, sweet, pleasant aroma. The colour generally ranges from light green to yellow (lemon/golden) to orange as per variety. The shape generally ranges from oval, heart shape to oblong shape. It will ripe on trees or under normal storage conditions. It will have good pulp recovery. It is generally available from March to August.
2. **Major Defects**. It will be free from temperature injury (scattered small dark- brown spotting on dull discoloured skin), physiological injury with internal breakdown (watery, translucent or spongy) and scalding due to temperature injuries. It will not be fibrous, sour, sweet-sour in taste.
3. **Minor Tolerances**. Light/dark blemishes in small spots, sunburn injury (bleaching) in small patches, marks of tree latex, etc not affecting quality of fruit may be accepted, if within acceptable limits.
4. **Recommended Varieties**.
 - (a) **Safeda**. Fruit has attractive apricot yellow peel, medium to large in size with good pulp recovery. The taste and flavour are excellent.
 - (b) **Ratna (Neelum x Alphonso)**. Fruit is medium to large size, deep yellow colour, pulp recovery is very good, pulp is orange in colour. Fruit is free from spongy tissues. The fruit taste is sweet.
 - (c) **Kesar**. Fruit is rated second to Alphonso in terms of quality. Fruit is medium to large size, very good taste and sugar acid blend is excellent.
 - (d) **Dahsehari**. Fruit is primrose to canary yellow with abundant light yellow dots, medium size with smooth skin. The flesh is yellow, firm, with almost no fibre and a delightful aroma and very sweet taste. Stone is thin.
 - (e) **Langra**. Fruit is greenish yellow with medium to big dark green dots, ovalish-oblong in shape and medium size. The flesh is firm to soft, fibreless, lemon yellow, very sweet with strong pleasant aroma, juice moderately abundant.
 - (f) **Chausa**. Fruit is canary yellow to raw sienna when fully ripe with numerous obscure medium size dots with minute specks inside them. The skin is thin and somewhat adhering to pulp. Pulp soft and juicy with scanty fine, long fibre near the stone. The fruit is very sweet with luscious, delightful aroma and excellent quality.
 - (g) **Banganpalli**. Fruit is primrose-yellow, large size, obliquely oval, skin smooth, thin and shiny. The flesh is firm with juice moderate to abundant and without fibre. Very tasty and delightful.
 - (h) **Bombay Green**. Fruit is medium size, has strong and pleasant flavour. Pulp is soft and sweet.
 - (j) **Himsagar**. Fruit is medium size, having good quality. Flesh is firm, yellow, and fibreless with pleasant flavour. (k) **Alphonso**. Fruit is very popular, medium size, ovate - oblique in shape, orange yellow in colour, has attractive blush towards the basal end. Pulp is firm, fibreless with excellent orange colour.

- (l) **Neelum**. Fruit is medium size with good flavour, soft flesh yellow in colour and fibreless.
- (m) **Raspuri**. Fruit is medium size, dark green in colour, flesh is yellow, pulp is soft and very juicy with long fibres, very sweet to taste.
- (n) **Sindura**. Fruit is medium size, upper part as red and lower part as green. Flesh is firm, juicy, yellow, sweet with scant fibres.
- (o) **Mallika**. Fruit is light green in colour, medium to large size with good pulp recovery. Very sweet to taste. Pulp is soft and fibreless, has delightful aroma.
- (p) **Malgoba**. Fruit is large size, dark green in colour. Flesh light yellow in colour, firm, juicy and very sweet.
- (q) **Fazli**. Fruit is large size, longish-oval shaped, green-yellow in colour, deep yellow pulp, sweet to taste. Orange (Hindi name- Santra, Botanical name - Citrus Reticulate Deliciosa)

Orange (Hindi name-Santra, Botanical Name- Citrus Reticulate Deliciosa)

1. **Fruit Characteristics**. Orange will be mature, ripe, juicy, fresh, bright bloom, waxed look, firm, smooth skin (not more than 5 mm thick), sweet, low acid flavour. Uniform colour is generally from light to full orange with red blush, dark red or burgundy flesh, yield to slight pressure, round to oval in shape. It has very high juice content. Minimum juice extraction will be 35% for all varieties. It is generally available from July to March.

2. **Major Defects**. It will be free of dark lesions on the fruit skin, black decay of fruit core, frost damage. No temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Green coloured, bitter, foul, bland taste and smell are not permitted. The wedges should be intact, without leakage, no bitter/foul/bland taste and smell.

3. **Minor Tolerances**. Superficial black/grey marks, enlarged navels, stem corrugations, light/ dark blemishes over small area, sun bleached yellow orange areas, slight defects in shape, colour, skin, russets, etc, not affecting quality of fruit may be accepted, if within acceptable limits. Light green area not more than 20 % or 30 % of surface is permitted during late seasoning, over and above the minor tolerances limit.

4. Recommended Varieties

- (a) **Nagpur**. This variety occupies premier position and is one of the finest oranges in the world. Fruit size is medium to large, smooth surface, glossy, rind thin, soft, loose segments and rind, with 10-12 segments, excellent quality.
- (b) **Hamlin**. Fruit size is medium, deep greenish yellow colour changing to orangered with full maturity, apex rounded and very slightly scarred, base smooth and rounded, rind very smooth bright thin, having 11-12 segments, flesh deep orangeyellow, juice abundant, acidity and sugars well blended, flavour excellent.
- (c) **Jaffa**. Fruit size is medium to large, colour orange-yellow to orange red, globose to ellipsoid, apex rounded, base rounded, rind smooth, finely pitted, 9-12 segments, flesh yellow, fine grained, pulp melting, acidity and sweetness normal and well blended.
- (d) **Malta Blood Red**. Fruit size is medium to large, round or slightly long, cadmium-yellow rind usually thin, tight and glossy, pulp streaked red early in season and full red when ripe, fine grained, melting, sweet, acidity well blended, juice abundant.
- (e) **Sathgudi**. Fruit almost spherical, small to large, smooth surface, attractively orange coloured when fully mature, base and apex evenly rounded, rind thin, semiglossy and finely pitted. Pulp uniformly straw coloured, juicy, flavour excellent, 10-12 segments.
- (f) **Valencia Late**. Fruit is medium to large, round or slightly oval, deep golden orange, apex rounded, slightly flattened, scarred, base smooth, rounded, rind thin, smooth, tough, pulp orange coloured, juice abundant, melting, acidity and sweetness well blended, excellent flavour and quality. Guava (Hindi name- Amrood, Botanical name - PsidiumGuajava)

Guava (Hindi Name- Amrood, Botanical Name PsidiumGuajava)

1. **Fruit Characteristics**. Guava will be thin skin, smooth/ bumpy surface, firm, ripe, sweet, mature, with good aroma. It will have thick pulp with seeds, which becomes softer towards the centre. It is generally round, oval, pear shaped as per the variety. Its colour is generally green, pale green to yellow. The pulp will be white,

yellow, pink, salmon or red as per the variety. It must not yield to fair pressure. It will have typical fragrance and will be tree ripe. It is generally available from September to April.

2. **Major Defects.** It should not be acidic in taste, over ripe, under ripe, fibrous, hard to bite or chew, gummy, astringent, foul smell/ taste.

3. **Minor Tolerances.** Superficial marks, bruises, blemishes, fairly hard seeds, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.**

(a) **Allahabad Safeda.** Fruit is large, round, smooth skin, seeds numerous, bold and hard, yellow white in colour. Flesh white, firm and soft.

(b) **Lucknow-49.** Also called as Sardar. Fruit is large, roundish/ orate shape, skin- prim rose yellow in colour, pulp white, very sweet and tasty.

(c) **Allahabad Surkha.** Fruit is large, uniform pink skin, deep pink flesh, sweet, strong flavour with few seeds.

(d) **Chittidar.** Fruit is large, round, smooth skin, yellow white in colour. Flesh white, firm and soft. It will have numerous red dots on skin, high sweetness, small/soft seeds.

(e) **Other Important Varieties.** Nagpur seed less, Bangalore, Dharwar, AkaraMridula.

GROUP II - MINOR FRUITS

Pear (Hindi name - Nashpati, Botanical name- PyrusCommunis)

1. **Fruit Characteristics.** Pear will be firm, sweet, juicy, crunchy, skin intact, evenly sized, sweet smelling with a dull bloom, stem intact and no foreign matter, with uniform rough skin and typical long pear shape with elongated, tapering neck. It is generally yellow green to dark green in colour. It is generally available from September to February.

2. **Major Defects.** It will be free of sun burns, heat damage, rots, etc. It will not have protruding areas, irregular curvatures or sutures, no internal breakdown or internal bruises.

3. **Minor Tolerances.** Skin marks/blemishes, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.**

(a) **Nashpati.** Firm, crunchy, sweet, granular, green colour, medium size.

(b) **Pears Kashmiri.** Juicy, firm, sweet, light green colour, large size, soft flesh.

(c) **BaguGosha (Bartlett).** Very juicy, easy to bite, melting in mouth, sweet, light colour, large size, excellent food quality.

(d) **Pears William.** Juicy, sweet, large size, green colour.

(e) **Pears Stone.** Firm, juicy, sweet, medium size, green colour.

Grapes(Hindi name - Angoor, Botanical name- VitisVinifera)

1. **Fruit Characteristics.** Grapes will be full bodied, bright, practically intact bloom, sweet, firm, crispy skin, juicy, seedless, distinctive flavour, aromatic, colour generally ranges from black to blue to green (light/dark light). Shape is generally round, oval or elongated. Up to 90% of berries must be attached to the bunch. It is generally available from January to June, some varieties are also available from November to December.

2. **Major Defects.** It will be free of pests, rotten skin, skin damages, spray deposits, water berries, etc. Detached berries from bunches will be well healed and not deteriorated.

3. **Minor Tolerances.** Differences in shape, small berries, uneven ripening/colour, bruising, sun scorching, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. Recommended Varieties.

- (a) **Thomson Seedless (and its mutants)**. It is sweet-tart, crunchy, oval-oblong shape, white in colour and seedless.
- (b) **Sharad Seedless**. It is elongated, cylindrical, black/amber colour. Berries firmly attached to stalk, evenly spaced, intact bloom.
- (c) **Perlette**. White in colour, sweet, juicy, seedless variety.
- (d) **Flame Seedless**. Red in colour, sweet-tart, crunchy.
- (e) **Other Important Varieties**. Sonaka, Pusa Seedless, Beauty Seedless.

Musk Melon (Hindi name- Kharbooja, Botanical name- CucumisMelo).

1. **Fruit Characteristics**. Musk Melon will be firm, sweet, smooth, juicy, melting flesh, highly aromatic like Musk. Generally uniform light-green to yellow-green to yellow skin colour, with light brown netting, at times separated by narrow (2-3mm) dark green subsurface band. Slightly raised delicate netting over surface of the fruit. Small sound seed cavity with slightly soft edges. Uniformly round to slightly oval in shape. It is generally available from February to July.

2. **Major Defects**. It will be free of sun burns, heat damage, etc. It will not have protruding areas, internal breakdown or bruises. It will be free from foreign or 'off' tastes or odours. It will not be deformed or have sutures.

3. **Minor Tolerances**. Physical damages, skin marks/blemishes, soil matter attached to fruits, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties**. All varieties of smooth or netted skin are permitted. The following are however recommended.

- (a) Honey Dew.
- (b) Crenshaw.
- (c) Casaba.
- (d) Galia.
- (e) Cantaloupe.
- (f) Santa Clause.

Papaya (Hindi name - Papita, Botanical name - Carica Papaya)

1. **Fruit Characteristics**. Papaya will be firm, full bodied, fresh, smooth, melting flesh, sweet, juicy, thin and slightly waxed skin, less number of seeds, free from foreign smell or taste. It is generally oval, elongated to slightly pear shaped, larger fruits are generally five sided. Generally greenish yellow to yellow, pink, red coloured flesh. Small green/brown skin spots over the surface. Skin smooth with moderate gloss. It is generally available round the year.

2. **Major Defects**. It will be free from rots, scars, wounds, scratches, and frost damage.

3. **Minor Tolerances**. Leak of latex, surface debris, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties**. All varieties are permitted. The following are however recommended.

- (a) Coorg Honey Dew.
- (b) Pusa Dwarf.
- (c) Pusa Majesty.
- (d) Pusa Delicious.
- (e) Honey Dew.
- (f) Ranchi Selection.
- (g) Washington.

Sweet Orange (Hindi name – Mosambi, Botanical name - Citrus Sinensis)

1. **Fruit Characteristics.** Sweet Orange will be large, firm, juicy, sweet citrus fruit. It is generally dark green to light green / pale green in colour and round/ oval in shape. It shall have characteristic aroma and taste. It shall have comparatively tight rinds, wedges tightly packed and difficult to remove. Minimum juice extraction will be 35% for all varieties. It is generally available from July to March.

2. **Major Defects.** It will be free of lesions on fruit skin, decay of fruit core. No frost damage, temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Bland taste and smell are not permitted.

3. **Minor Tolerances.** Superficial black/grey marks, enlarged navels, stem corrugations, slight defects in colour, shape, skin, hail damage, handling damage, sun bleached areas, etc, not affecting quality of fruit may be accepted, if within acceptable limits. Light green area not more than 20- 30 % of surface is permitted during late seasoning, over and above the minor tolerances limit.

4. **Recommended Varieties.** All varieties are permitted.

Pine Apple (Hindi name - Ananas, Botanical name –AnanasComosus)

1. **Fruit Characteristics.** Pine Apple will be sweet, firm, juicy, strong sweet aroma and taste, texture not chalky or fibrous. It will have thick, rough skin covered with hexagonal pattern of nodules. It will have thick blue-green bunch of Cactus like leaves at top with tough central core. Colour of skin is generally greenish yellow to golden yellow. Shape is generally cylindrical to pine cone. On slicing should have minimum development of translucent area. Stem and crown be trimmed to 2 cm to 10 cm respectively. It is generally available from May to September (maximum), July, December to March (minimum).

2. **Major Defects.** It should be free from diseases, insipid/cracky taste, mechanical damages, black rot, watery spots, low temp injuries and decay.

3. **Minor Tolerances.** Minor shrivelling, discoloration, non-uniform ripening, stains, surface mud debris, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Giant kew.
- (b) Queen.
- (c) Kew.
- (d) Mauritius.

GROUP III - MICRO GROUP

Sapodilla (Hindi name - Chickoo/Sapota, Botanical name – AchrasSapata)

1. **Fruit Characteristics.** Sapodilla will be medium to large, exceptionally sweet, malty caramel flavour, smooth skin with sandy brown scruff, resembling a smooth skimmed Potato. It is generally round, oval, ellipsoidal, oblate shaped with pointed ends. Colour of flesh ranges from pale yellow to earthy brown with a grainy texture. Difficult to peel, yields to pressure. It is generally available from December to March.

2. **Major Defects.** It should be free of rawness, rots, internal breakdown, over ripening, watery spots, low temp injuries and decay.

3. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Kalipatti.
- (b) Cricket Ball.
- (c) Pala.
- (d) Kirtibarathi.
- (e) Bhuripatti.

Kinnow(Hindi name- Kinnow, Botanical name - Hybrid of Citrus Nobilis and Citrus Delicosa)

1. **Fruits Characteristics.** Kinnow will be medium to large, golden orange colour, easy to peel, sweet, refreshing, oblate, base flat, juicy, more seeds per segment, 9-10 segments per fruit, comparatively loose

rind, citrus fruit. It is generally available from December to February. Minimum juice extraction will be 40% for all varieties.

2. **Major Defects.** It will be free of lesions on fruit skin, decay of fruit core. No temperature injury (water soaked flesh or dark brown depressed lesions) or sunburn (pale, hard skin). Bland taste and smell are not permitted.

3. **Minor Tolerances.** Superficial black/grey marks, enlarged navels, stem corrugations, light/ dark blemishes over small area, sun bleached areas, slight defects in shape, colour, skin, russets, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted.

Pomegranate (Hindi name- Anaar, Botanical name –PunicaGranatium).

1. **Fruit Characteristics.** Pomegranate will be plump, unblemished, rounded, shiny, feel heavy for size, firm to touch, make metallic sound when tapped, thick tough leathery skin, generally has yellow colour over laid on deep pink to rich red colour. It generally has 7001400 arils, red, pink, white, purple in colour. Seeds surrounded by water laden pulp. Seeds are also in a white, spongy pulp, internal strip white membrane. It has tangy, sweet-sour flavour (sour due to acid tannin). It is generally available from July to September and September to February.

2. **Major Defects.** It will be free from wrinkles, dull/pale skin, cuts, bruises, shiny, tangy. No internal decay.

3. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Ganesh.
- (b) PhuleArakta.
- (c) Mridula.

Apricot (Hindi name – Khurmani, Botanical name – PrunusArmeniaca)

1. **Fruit Characteristics.** Apricot will be smooth surfaced or have very short hair. It is generally oblong or round in shape. Firm but give way to palm pressure. Sweet smelling generally yellow to orange in colour (red on sides exposed to sun). It has a prominent wedge and is fairly dry. Its kernel may be sweet or bitter. It is generally available from May to June.

2. **Major Defects.** It will be free of fruit fly, frost damage, brown spots, musty feeling and presence of sulphur.

3. **Minor Tolerances.** Superficial skin damages, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) New Castle.
- (b) Kaishe.
- (c) Moorpark.
- (d) Turkey.
- (e) Halman.
- (f) Bati.

Cherry (Hindi name – Cherry, Botanical name –PrunusAvium)

1. **Fruit Characteristics.** Cherry will be fleshy, smooth surfaced, round to oblong to cylindrical in shape, light pink to dark red in colour, firm, sweet, juicy, stone fruit, produced in bunches, offered with stems. It is generally available from April to June.

2. **Major Defects.** It will be free of pit damage due to frost, over ripening, internal decay, surface deteriorations.

3. **Minor Tolerances.** Scab, hail, discolouration, scar tissues, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted.

Peach (Hindi name- Adoo, Botanical name-PrunusPersica)

1. **Fruit Characteristics.** Peach will be sweet, juicy, firm, not dry and woody, free of foreign smells and taints, stone fruit. Flat irregular surface donut shape with thin skin, no foreign matter. Creamy pink to red blush covering 20-80% of surface, background skin is creamy green, internal flesh is creamy white. It is generally available from May to July.

2. **Major Defects.** It will be free from sun scalding, splitting, gumming, brown rot, spots, cracks, bruises.

3. **Minor Tolerances.** Scab, hail, discolouration, green tinge, scar tissues, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended.

- (a) Red heaven.
- (b) Sun heaven.
- (c) Alton.
- (d) July Elberta.
- (e) Peshwar.
- (f) Prabhati.
- (g) Pratap.

Plum (Hindi name - Aloo Bukhara, Botanical name –PrunusSalicina)

1. **Fruit Characteristics.** Plum will be sweet and tart, in a variety of shapes, sizes, colours. It yields under pressure, ripe at room temperature, yellow red flesh, seed difficult to separate, clings to flesh, stone fruit. It is generally available from April to June.

2. **Major Defects.** It should be free from decay, breakdown (soft mushy condition), freeze injury (water soaked, glazed areas), soft, over ripe, shrivelled. No drought spot, sun scald, nail damage, leaf/limb rub mark, hail damage.

3. **Minor Tolerances.** Condition defect after packing, superficial damages, crushing, freezing, overheating, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Salicina group (Japanese).
- (b) Satluj.
- (c) Kala.
- (d) Amritsar.
- (e) Titron

Litchi (Hindi name - Leechi, Botanical name - Litchi Chinensis)

1. **Fruit Characteristics.** Litchi will be firm, pump, full bodied, sweet, juicy white flesh with a consistency similar to a grape, not tart or acidic, distinct aroma, flesh separates cleanly and easily from skin, smooth dark brown small size seed, free from foreign and offensive smell or taste. Its leathery skin is covered with small bumps, free from foreign matter. It is generally heart/ oval shaped, green to red in colour, greening not more than 40% of visible surface area. Offered with a stub of stem, in bunch. It is generally available from May to June.

2. **Major Defects.** It will be free from pericarp browning, pests, softening of aril, blunt taste, rots, bacterial, yeast, fungal, decay.

3. **Minor Tolerances.** Superficial skin damages, discolouration, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Shahi.
- (b) China.

- (c) Dehradun.
- (d) Rose scented.
- (e) Purni.
- (f) Kasba.
- (g) Bombay Green.

Water Melon (Hindi name – Tarbooja, Botanical name – CitrullusLanatus)

1. **Fruit Characteristics.** Water Melon will be juicy, have thick rind, fleshy centre, smooth exterior (colour is generally green, yellow, white), sweet interior (colour pink, orange, yellow, red (not over ripe). It is generally round, oblong, tubular in shape. Will have light green, dark green, mixed green, stripes in the exterior. It is generally available from January to March (North India), September to October (South India).

2. **Major Defects.** It will be free of sun burns, heat damage. It will not have protruding areas, internal breakdown or bruises. It will be free from foreign or 'off' tastes or odours. It will not be deformed or have sutures.

3. **Minor Tolerances.** Physical damages, skin marks/blemishes, soil matter attached to fruits, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) ArkaJyoti.
- (b) ArkaManik.
- (c) Asahi Yamato.
- (d) Durgapur Kesar.
- (e) Madhu, Milan, Mohini.
- (f) Sugar baby.

Custard Apple (Hindi name - Sitafal, Botanical name- AnnonaSquamos)

1. **Fruit Characteristics.** Custard Apple will be sweet, rich flavoured, pleasant, slightly granular, bit slippery, with a thick creamy white layer of custard like granular flesh beneath the skin, having moderately juicy segments. Many segments may have a seed. It is irregular, round, heart shaped, lop sided shaped deep or shallow depression at base. It is generally green-brown to light green to yellowish in colour with red highlights, varying degree of reticulations. Skin is dull, thin but tough covered in irregular smooth bumps or prominent nodules as per variety. It is generally available from August to October (North India) and September to November (South India).

2. **Major Defects.** It will be free from rots, internal breakdown, skin splitting, over ripening, press marks, water soaking.

3. **Minor Tolerances.** Superficial skin damages/bruising, discolouration, change in colour, wounds, scratches, punctures, etc, not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following green coloured (various shades) varieties are however recommended:-

- (a) Balanger.
- (b) Local sitafal.
- (c) Saharanpur local.
- (d) Washington.

Strawberry (Hindi name - Strawberry, Botanical name – FragariaVesca)

1. **Fruit Characteristics.** Strawberry will be sweet, juicy, aromatic, bright natural shine, reddish-pinkish colour conical shape. Calyx (cap) of fresh green colour shall be intact on the fruit. It yields under pressure, has many tiny seeds on the outside. It is generally available from February to April (in plains) and May to June (in hills).

2. **Major Defects.** It should be free from fungus, moulds, acidic taste, decay, breakdown (soft mushy condition), water soaked, soft, over ripe and shrivelled.

3. **Minor Tolerances.** Condition defect after packing, superficial damages, crushing, misshapen, white/poorly coloured, swollen, less firm, irregular surfaced, etc not affecting quality of fruit may be accepted, if within acceptable limits.

4. **Recommended Varieties.** All varieties are permitted. The following are however recommended:-

- (a) Dilpasand.
- (b) Bangalore.
- (c) Solana.
- (d) Royal Sovereign.
- (e) Tioga.
- (f) Torrey.

PART- III APPROVED VARIETIES OF FRUITS FRESH AND THEIR QUALITATIVE ASSESSMENT

All fruits fresh for the purpose of assessment shall be graded for size and grade which shall constitute the crux of the assessment. Maximum possible number of fruits to a kilogram are laid down below as part of this specification:-

S No	Fruit	Variety	No of fruits per Kg
1	Apple	Delicious	5-7
		Other varieties	6-8
2	Banana	Length not less than 14 cm and width not less than 2.7 cm	
3	Mango	Deshaeri	5-7
		Other varieties	4-6
4	Orange	All Varieties	6-7
5	Guava	-do-	6-8
6	Pear	-do-	6-8
7	Grape	-do-	Bunch weight of 150/100 gm for large/small berries respectively
8	Musk Melon	-do-	1-2
9	Papaya	-do-	1-2
10	Sweet Orange	-do-	5-7
11	Pine Apple	-do-	1-2
12	Sapodilla	-do-	8-10
13	Kinnow	-do-	5-7
14	Pomegranate	-do-	4-6

Note - Other seasonal locally available fruits may be included at the discretion of the local commanders and temporary specification may be prepared by the station.

SECRETARIAT OF THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS)
(DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 497 : WHITE BREAD

Quality

1. The bread shall be baked in conventional form in manufacturing plant which is preferably HACCP/ISO 22000 certified. The crust shall be free from blisters and shall be of a uniform golden to light brown colour. The crust shall not be burnt and shall be free from soot and any foreign matter.
2. The loaf shall have a volume/mass ratio of not less than 2.5. The crumb shall have small pores uniformly distributed, throughout and with thin cell walls. It shall be free from non-porous mass, splits and large holes, lumps of flour or salt or any other evidence of incomplete mixing or baking.
3. There shall be no hollow between the crust and the crumb.
4. The flavour shall be characteristic of fresh, well baked bread, free from bitterness or any other objectionable flavour or taste. The bread shall also be free from indications of rope or mould. Baking products received back from market shall not be recycled.

Packing

5. The bread shall be wrapped or packed in sliced form either in clean waxed paper or any other suitable food grade wrapper to preserve freshness. Packing may also be done in printed food grade poly bags which can be tightened with rubber band. The mass of each bread loaf shall be either 400 gm or 800 gm as per the provisions of the Legal Metrology (packed Commodities) Acts 2009 and Rules 2011.

Marking

6. The following particulars shall be clearly and indelibly marked on each pack of bread on the outer side of the wrapper. Printing shall be done by using non toxic and non penetrating/non transferable ink:-

- (a) Description of contents
- (b) Name and address of manufacturer
- (c) Trade name, if any
- (d) Mass of the loaf when packed
- (e) Any added ingredients such as preservatives, emulsifiers, dough conditioners nutrients etc.
- (f) Date of manufacture.
- (g) Best before
- (h) Symbol for veg food.

7. Essential Ingredients. The following material shall be used in the preparation of dough for white bread:-

(a) **Maida (Wheat Flour)**. Maida (Wheat Flour) shall be the product obtained by milling cleaned, hard or soft wheat or blends thereof in a roller flour mill and bolting. The flour shall be free flowing, dry to touch, should not pack when squeezed, should be creamy in colour and free from any visible bran particles. The flour shall have a characteristic taste and smell, and shall be free from insect and fungus infestation, rodent contamination, dirt and other extraneous matter. It should not have any musty flavour or rancid taste.

(b) The material shall also comply with the requirements given in Table 1 and 2 of BIS specification IS: 7464: 1988.

- (c) **Leavening Agents**. Any of the following agents singly or in combination may be used:-

- (i) Baker's yeast (As per IS: 1320-1988 third revision).
- (ii) Barm and hops.
- (iii) Fermented juice obtained from palms, and
- (iv) Lactic acid ferment.

(d) **Edible common salt.** Edible common salt or iodized salt conforming to BIS specification No IS:253-1985 or IS: 7224-1985 shall be used.

(e) **Water.** Water used in the manufacture of bread shall conform to the quality tolerance limits laid down in BIS specification No 4251-1967.

8. **Optional Ingredients.** In addition to the essential ingredients prescribed above any of the following ingredients may be added in the dough :-

- (a) Milk and Milk products - (As per IS: 1166-1986 specification for condensed milk (second revision), IS : 1165-1992 specification for milk powder (Whole and skim) (fourth revision).
- (b) Vital gluten
- (c) Sugar and Sugar products.
- (d) Honey.
- (e) Liquid glucose (As per IS: 873-1974 specification for liquid glucose (first revision).
- (f) Dextrose monohydrate (As per IS: 874-1992 specification for dextrose monohydrate (third revision)
- (g) Malt products.
- (h) Other edible flours and starches.
- (j) Edible oil seed flour.
- (k) Fat - Hydrogenated edible vegetable oil or refined edible vegetable oil of suitable type, butter, ghee, margarine or their mixture.
- (l) Vitamins and/or minerals.
- (m) Lecithin
- (n) Albumin
- (o) Lysine
- (p) Fungal alpha amylase - not exceeding 100 mg/kg of the mass of the flour.
- (q) Sorbitol
- (r) Glycerine
- (s) Emulsifying agents - As per FSSAI rules.
- (t) Stabilizing agents -As per FSSAI rules.
- (u) Ammonium chloride - Not exceeding 500 mg/kg of the mass of the flour.
- (v) Ascorbic acid and
- (w) Lime water.

9. **Improvers.** Following improvers may be used:-

- (a) Ammonium sulphate - Not exceeding 2.5 gm/kg of mass per sulphate of the flour.
- (b) Calcium carbonate - Not exceeding 5 gm/kg of the mass of the flour.
- (c) Acid calcium phosphate - Not exceeding 10.0 gm/kg of the phosphate mass of the flour.
- (d) Calcium phosphate - Not exceeding 2.5 gm/kg of the mass of the flour.
- (e) L-cysteine - Not exceeding 90 mg/kg of the hydrochloride mass of the flour.
- (f) Guar gum - Not exceeding 5.0 gm/kg of the mass of the flour.

10. **Rope and Mould Inhibitors.** The following rope and mould inhibitors in the quantities given against each may be used :-

- (a) Calcium or Sodium propionate. - Not exceeding 5.0 gm/kg of the flour.
- (b) Glacial acetic acid or lactic acid - Not exceeding 2.5 gm/kg of the mass of the flour.
- (c) Vinegar - Equivalent to the concentration of acetic acid permitted.
- (d) Sodium diacetate - Not exceeding 4.0gm/kg of the mass of the flour.
- (e) Acid sodium pyrophosphate - Not exceeding 5.0 gm/kg of the mass of the flour.
- (f) Sorbic acid or its sodium, potassium or calcium salts. - Not exceeding 1.0 gm/kg of the mass of the flour.

11. **Dough Conditioners.** Calcium or sodium salt of stearyl-lactylate not exceeding 5.0 gm/kg of the mass of the flour.

Hygiene Requirements

12. The bread shall be prepared in premises maintained in a hygienic condition, which shall be open to inspection at any time by a competent authority approved by the Quartermaster General and the Director General of Medical Services (Army).

13. The hygiene requirements in a factory producing white bread shall be in accordance with Appendix 'A' attached.

Inspection

14. An inspection shall be carried out by the Director General of Supplies and Transport or an officer acting on his behalf on all supplies tendered for acceptance. The decision of this officer shall be final.

15. The bread shall conform to the following analysis:-

- | | |
|--|--------------|
| (a) Total solid content, percent by mass, Min | - 60 |
| (b) PH of the bread | - 5.0 to 6.0 |
| (c) Acid insoluble ash (on dry basis), percent by mass, Max. | - 0.1 |
| (d) Crude fibre (on dry basis), percent by mass, Max. | - 0.5 |

Methods of analysis

16. The methods of analysis shall be those as laid down in Bureau of Indian Standards Specification No IS: 1483-1988 for white bread.

Machinery

17. A bread manufacturing unit shall preferably have the machinery in accordance with Appendix 'B' attached.

Mandatory requirements of FSSAI/BIS

18. All mandatory requirements of FSSAI/BIS, as amended from time to time, pertaining to the above product shall be complied with.

**Appendix 'A' to Specification
No 497 for White Bread (Para 13 refers)**

HYGIENE REQUIREMENTS

1. **Site.** The bakery unit shall preferably be situated in an open, clean and healthy locality. The grounds of the premises surrounding the factory building should be clean and preferably paved or turfed to lay the dust.

2. **Building**

(a) Structure. The building shall be of permanent nature and shall be of brick and lime plaster, cement, concrete or any other material which ensures cleanliness. Construction of building shall be such that it shall be rodent proof, fly proof and bird proof. The building and yard, with fittings and equipment should be kept free from breeding places of flies and other insects by eliminating cracks and crevices, as well as by routine and thorough cleaning.

(b) Ventilation and lighting. The unit shall be adequately lighted and ventilated, keeping in mind the number of workers, their hours of work and nature of operation.

3. Floor. The floor shall be washable with sufficient drainage facility and it shall be impervious to water and not affected by weak acids, alkalies or steam.

4. Internal wall. The internal wall shall be smooth, it should be tiled or cement plastered or made of any other impervious material. Where wash basins, sinks are installed, the walls shall be tiled or made impervious to water upto the height of wash basin to safe guard the wall from water seepage.

5. Ceiling. The ceiling shall be kept clean.

6. Maintenance and repairs. The building shall be maintained in a proper state of repair and cleanliness. Whenever required it shall be lime washed, painted, disinfected and/or deodorized.

7. There shall be no cobwebs in any part of the unit.

8. Preparation and filling table shall be of wooden tops or covered with Aluminium or stainless sheets or otherwise made impervious to water as far as practicable. All surfaces coming into contact with the food shall be free from pits, crevices and loose scale and shall be non absorbent.

9. All internal joinery work should be of simple design for easy cleaning and for minimizing flour dust deposit. In all rooms' wood work, surrounding door windows and other opening should be fixed tight to the internal wall surface so as to avoid open joints which may harbour pests.

10. Store Rooms. The store rooms for raw and packing material should be free from dampness and should be rodent proof.

11. Wherever possible a separate room for storing machinery, equipment, spare parts shall be provided.

12. Proper place shall be provided for storage of brooms, brushes, buckets and other cleaning gear.

13. **Factory and processing Hygiene**.

(a) Waste and rubbish shall be collected in covered receptacles and shall not be allowed to lie about on the floor.

(b) Adequate measures shall be taken to prevent growth of mould on equipment and internal structure of processing and storage room.

(c) Adequate measures shall be taken to prevent infestation of cockroaches and other house hold pests.

(d) When pesticides and/or other disinfectants are used, care shall be exercised to prevent contamination of equipment, raw material and packing materials.

(e) Floors and drains shall be kept clean. In the processing areas, the drains shall be provided with detachable covers.

(f) Sinks and troughs used for washing ingredients and utensils shall not be used for washing of hands.

(g) No lavatory, sink, cesspool or garbage shall be so situated or maintained that odours or fumes there from pervade any room where product or raw materials are prepared or stored.

(h) The factory effluents shall be disposed of in a hygienic manner and shall not be let off on road or adjacent fields.

(j) Window glass and light fitting shall be kept clean.

(k) Domestic animals shall not be allowed in any part of the unit.

14. Container cleanliness. It shall be ensured that containers are clean. The containers shall not be stacked in a manner which allows the contamination of the product.

15. Installation of Equipment

- (a) All equipment shall be installed on a foundation of durable, easily cleanable material.
- (b) Equipment shall be placed away from the walls with a view to providing facilities for inspection and cleaning.
- (c) Installation of pipes shall be such as to facilitate easy cleaning and maintenance.

16. Equipment and Container Cleanliness

- (a) All electrical connections such as switch boxes, control boxes, conduit cables shall be installed in such a way as to facilitate proper cleaning.
- (b) All equipment coming in contact with raw materials or the product shall be kept clean. An ample supply of water, hoses, brushes, detergent and other equipment necessary for the proper cleaning of machinery and equipment shall be available.
- (c) All processing systems shall be cleaned at the close of operation or at the termination of the continuous operation period.

17. Water.

- (a) There shall be adequate supply of potable water.
- (b) The equipment shall be so installed and used that back siphonage of liquid into potable water lines is precluded.
- (c) Hot and cold water in ample supply shall be provided for plant clean up needs where necessary.
- (d) The storage tanks of water should, unless completely sealed, be kept covered, examined regularly and cleaned at least once every six months.

18. Employee Hygiene

- (a) Every person employed in the factory shall be medically examined before employment. Periodical medical examination of the employee shall be subsequently carried out to ensure that they are free from contagious, communicable diseases.
- (b) It shall be impressed upon all employees that they should notify the medical officer, cases of vomiting, diarrhoea, typhoid, dysentery or any other notifiable disease occurring in their own homes and families.
- (c) Employees shall keep their finger nails short and clean and wash their hands with soap or detergent before commencing work and after each absence, specially after using sanitary conveniences. Towels used for drying hands should be clean.
- (d) All employees should be inoculated against typhoid and paratyphoid once in every five years. In case of an epidemic all workers shall be inoculated and a record shall be kept.
- (e) No worker shall be allowed to work without proper clothing. Employees shall be provided with clean uniform/aprons and clean washable caps. The uniforms shall not be worn outside the plant but just before starting the work and changed when leaving.
- (f) Eating, spitting, nose cleaning, the use of tobacco in any form or chewing betel leaves shall be prohibited within the manufacturing, packing and storage areas of the unit. Notice to this effect shall be prominently displayed.
- (g) Sufficient and suitable sanitary conveniences shall be provided, maintained and kept clean. The conveniences shall be properly lighted. No conveniences shall open directly into any work room in the factory.
- (h) Sufficient wash basins with adequate provision of soap and towels, latrines and urinals in the prescribed manner should be provided.

MACHINERY

1. Bread manufacturer should preferably have the following special equipment's used in preparing bakery products :-

- (a) Mixer. To mix various ingredients to ensure uniform distribution throughout the mass and to form minute bubbles of air to serve as foci for the evolution of carbon dioxide and development of gluten which is critical in the preparation of bread doughs.
- (b) Dough Dividers. To divide a large mass of dough into pieces corresponding to single unit of the finished product.
- (c) Rounders. To close the cut surfaces, from where the gas can readily diffuse. It gives the dough a smooth and dry exterior to reorient the gluten structure.
- (d) Proofing chambers. To hold doughs here in racks under controlled conditions of temperature and humidity before actual baking.
- (e) Baking Equipment. For this purpose conventional/electric ovens may be used.
- (f) Slicing Machine. To slice the cool bread all loaves must be passed through slicing machine.
- (g) Packing Machine. To wrap and pack the bread in clean waxed paper or any other food grade paper to preserve fresh ness, Packing may also be done in printed food grade polythene bag which can be tightened with rubber band.

THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE GENERAL OF SUPPLIES AND TRANSPORT)

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 498 : WHEATMEAL BREAD

Quality

1. The Wheat meal bread shall be baked in conventional form in manufacturing plant which is preferably HACCP/ISO 22000 certified. The crust shall be uniform free from blisters and brown to dark brown in colour. The crust shall not be scorched and shall be free from soot and any foreign matter.
2. The following materials shall be used in the preparation of dough for wheat meal bread :-
 - (a) **Wheat Atta**. Not less than 65% of the blend. The wheat atta used shall be conforming to BIS Spn No IS : 1155-1968 (reaffirmed – 2005) edition 3.3 (1990-03).
 - (b) **Maida**. Maida used shall be conforming to BIS Spn No IS : 7464-1988 (reaffirmed – 2000).
3. The loaf shall have a good volume/mass ratio of not less than 2.5. The crumb shall have small pores uniformly distributed, throughout and with thin cell walls. It shall be free from non-porous mass, splits and large holes, lumps of flour or salt or any other evidence of incomplete mixing or baking.
4. There shall be no hollow between the crust and the crumb.
5. The flavour shall be characteristic of fresh, well baked bread, free from staleness, bitterness or any other objectionable flavour or taste. The bread shall also be free from indications of rope or mould. Baking products received back from market shall not be recycled.

Packing

6. The bread shall be wrapped or packed in sliced form either in clean waxed paper or any other suitable food grade wrapper to preserve freshness. Packing may also be done in printed food grade poly bags which can be tightened with rubber band. The mass of each bread loaf shall be either 400 gm or 800 gm as per the provisions of the Legal Metrology (Packaged Commodities) Acts, 2009 and Rules, 2011. Marking
7. The following particulars shall be clearly and indelibly marked on each pack of bread on the outer side of the wrapper. Printing shall be done by using non toxic and non penetrating/non transferable ink:-
 - (a) Description of contents.
 - (b) Name and address of manufacturer.
 - (c) Trade name, if any.
 - (d) Mass of the loaf when packed.
 - (e) Any added ingredients such as preservatives, emulsifiers, dough conditioners nutrients etc.
 - (f) Date of manufacture.
 - (g) Best before.
 - (h) Symbol for veg food.
8. **Essential Ingredients**. The following material shall be used in the preparation of dough for wheatmealbread :-
 - (a) **Wheat Atta**. The material shall be obtained by milling sound and clean wheat. It shall be in the form of powder having characteristic taste and flavour. It shall be free from rancidity, insect, rodent or fungus infestation. It shall also be free from fermented, musty or other objectionable odour. It shall not have adulterants and other extraneous matter. The appearance, taste and odour shall be determined by organoleptic tests.

- (b) The material shall also comply with the requirements given in table 1 of the BIS Spn No IS: 1155-1968.

(c) **Maida (Wheat Flour)**. Maida (Wheat Flour) shall be the product obtained by milling cleaned, hard or soft wheat or blends thereof in a roller flour mill and bolting. The flour shall be free flowing, dry to touch, should not pack when squeezed, should be creamy in colour and free from any visible bran particles. The flour shall have a characteristic taste and smell, and shall be free from insect and fungus infestation, rodent contamination, dirt and other extraneous matter. It should not have any musty flavour or rancid taste.

(d) The material shall also comply with the requirements given in Table 1 and 2 of BIS specification IS: 7464: 1988.

(e) **Leavening Agents**. Any of the following agents singly or in combination may be used:-

- (i) Baker's yeast (As per IS: 1320-1988 third revision).
- (ii) Barm and hops.
- (iii) Fermented juice obtained from palms, and
- (iv) Lactic acid ferment.

(f) **Edible common salt**. Edible common salt or iodized salt conforming to BIS specification No IS: 253-1985 or IS: 7224-1985 shall be used.

(g) **Water**. Water used in the manufacture of bread shall conform to the quality tolerance limits laid down in BIS specification No 42511967.

9. **Optional Ingredients**. In addition to the essential ingredients prescribed above any of the following ingredients may be added in the dough :-

(a) Milk and Milk products - (As per IS : 1166-1986 specification for condensed milk (second revision), BIS Specification No IS : 1165-1992 for milk powder (Whole and skim) (fourth revision).

(b) Vital gluten.

(c) Sugar and Sugar products.

(d) Honey.

(e) Liquid glucose (As per BIS Specification No IS: 873-1974 specification for liquid glucose (first revision).

(f) Dextrose monohydrate (As per BIS Specification No IS: 8741992 for dextrose monohydrate (third revision).

(g) Malt products.

(h) Other edible flours and starches.

(j) Edible oil seed flour.

(k) Fat - Hydrogenated edible vegetable oil or refined edible vegetable oil of suitable type, butter, ghee, margarine or their mixture.

(l) Vitamins and/or minerals.

(m) Lecithin.

(n) Albumin.

(o) Lysine.

(p) Fungal alpha amylase - not exceeding 100 mg/kg of the mass of the flour.

(q) Sorbitol.

(r) Glycerine.

(s) Emulsifying agents - As per FSSAI rules.

(t) Stabilizing agents - As per FSSAI rules.

(u) Ammonium chloride - Not exceeding 500 mg/kg of the mass of the flour.

- (v) Ascorbic acid and
- (w) Lime water.

10. **Improvers.** Following improvers may be used:-

- (a) Ammonium persulphate. - Not exceeding 2.5 gm/kg of mass of the flour.
- (b) Calcium carbonate - Not exceeding 5 gm/kg of the mass of the flour.
- (c) Acid calcium phosphate. - Not exceeding 10.0 gm/kg of the mass of the flour.
- (d) Calcium phosphate - Not exceeding 2.5 gm/kg of the mass of the flour.
- (e) L-cysteine hydrochloride. - Not exceeding 90 mg/kg of the mass of the flour.
- (f) Guar gum - Not exceeding 5.0 gm/kg of the mass of the flour.

11. **Rope and Mould Inhibitors.** The following rope and mould inhibitors in the quantities given against each may be used :-

- (a) Calcium or Sodium propionate. - Not exceeding 5.0 gm/kg of the flour.
- (b) Glacial acetic acid or lactic acid - Not exceeding 2.5 gm/kg of the mass of the flour.
- (c) Vinegar - Equivalent to the concentration of acetic acid permitted.
- (d) Sodium diacetate - Not exceeding 4.0 gm/kg of the mass of the flour.
- (e) Acid sodium pyrophosphate - Not exceeding 5.0 gm/kg of the mass of the flour.
- (f) Sorbic acid or its sodium, potassium or calcium salts. - Not exceeding 1.0 gm/kg of the mass of the flour.

12. **Dough Conditioners**

- (a) Calcium or sodium salt of stearoyl-2 lactylate not exceeding 5.0 gm/kg of the mass of the flour.
- (b) Polysorbates.

Hygiene Requirements

13. The wheatmeal bread shall be prepared in premises maintained in a hygienic condition, which shall be open to inspection at any time by a competent authority approved by the Quartermaster General and the Director General of Medical Services (Army).

14. The hygiene requirements in a factory producing wheatmeal bread shall be in accordance with Appendix 'A' attached.

Inspection

15. An inspection shall be carried out by the Director General of Supplies and Transport or an officer acting on his behalf on all supplies tendered for acceptance. The decision of this officer shall be final.

16. The wheatmeal bread shall conform to the following analysis:-

- (a) Total solid content, percent by mass, Min - 60

- (b) pH of the wheatmeal bread - 5.5 to 6.0
- (c) Acid insoluble ash (on dry basis), - 0.1 percent by mass, Max.
- (d) Crude fibre (on dry basis), percent by - 1.8 mass, Max.

Methods of analysis

17. The methods of analysis shall be those as laid down in Bureau of Indian Standards Specification No IS: 1483-1988 for white bread.

Machinery

18. A bread manufacturing unit shall preferably have the machinery in accordance with Appendix 'B' attached.

Mandatory requirements of FSSAI/BIS

19. All mandatory requirements of FSSAI/BIS, as amended from time to time, pertaining to the above product shall be complied with.

HYGIENE REQUIREMENTS

1. Site. The bakery unit shall preferably be situated in an open, clean and healthy locality. The grounds of the premises surrounding the factory building should be clean and preferably paved or turfed to lay the dust.
2. Building
 - (a) Structure. The building shall be of permanent nature and shall be of brick and lime plaster, cement, concrete or any other material which ensures cleanliness. Construction of building shall be such that it shall be rodent proof, fly proof and bird proof. The building and yard, with fittings and equipment should be kept free from breeding places of flies and other insects by eliminating cracks and crevices, as well as by routine and thorough cleaning.
 - (b) Ventilation and lighting. The unit shall be adequately lighted and ventilated, keeping in mind the number of workers, their hours of work and nature of operation.
3. Floor. The floor shall be washable with sufficient drainage facility and it shall be impervious to water and not affected by weak acids, alkalies or steam.
4. Internal wall. The internal wall shall be smooth, it should be tiled or cement plastered or made of any other impervious material. Where wash basins, sinks are installed, the walls shall be tiled or made impervious to water upto the height of wash basin to safe guard the wall from water seepage.
5. Ceiling. The ceiling shall be kept clean.
6. Maintenance and repairs. The building shall be maintained in a proper state of repair and cleanliness. Whenever required it shall be lime washed, painted, disinfected and/or deodorized.
7. There shall be no cobwebs in any part of the unit.
8. Preparation and filling table shall be of wooden tops or covered with Aluminium or stainless sheets or otherwise made impervious to water as far as practicable. All surfaces coming into contact with the food shall be free from pits, crevices and loose scale and shall be non absorbent.
9. All internal joinery work should be of simple design for easy cleaning and for minimizing flour dust deposit. In all rooms' wood work, surrounding door windows and other opening should be fixed tight to the internal wall surface so as to avoid open joints which may harbour pests.
10. Store Rooms. The store rooms for raw and packing material should be free from dampness and should be rodent proof.
11. Wherever possible a separate room for storing machinery, equipment, spare parts shall be provided.
12. Proper place shall be provided for storage of brooms, brushes, buckets and other cleaning gear.
13. Factory and processing Hygiene.
 - (a) Waste and rubbish shall be collected in covered receptacles and shall not be allowed to lie about on the floor.
 - (b) Adequate measures shall be taken to prevent growth of mould on equipment and internal structure of processing and storage room.
 - (c) Adequate measures shall be taken to prevent infestation of cockroaches and other house hold pests.
 - (d) When pesticides and/or other disinfectants are used, care shall be exercised to prevent contamination of equipment, raw material and packing materials.

- (e) Floors and drains shall be kept clean. In the processing areas, the drains shall be provided with detachable covers.
- (f) Sinks and troughs used for washing ingredients and utensils shall not be used for washing of hands.
- (g) No lavatory, sink, cesspool or garbage shall be so situated or maintained that odours or fumes therefrom pervade any room where product or raw materials are prepared or stored.
- (h) The factory effluents shall be disposed of in a hygienic manner and shall not be let off on road or adjacent fields.
- (j) Window glass and light fitting shall be kept clean.
- (k) Domestic animals shall not be allowed in any part of the unit.

14. Container cleanliness. It shall be ensured that containers are clean. The containers shall not be stacked in a manner which allows the contamination of the product.

15. Installation of Equipment

- (a) All equipment shall be installed on a foundation of durable, easily cleanable material.
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- (c) All processing systems shall be cleaned at the close of operation or at the termination of the continuous operation period.

17. Water.

- (a) There shall be adequate supply of potable water.
- (b) The equipment shall be so installed and used that back siphonage of liquid into potable water lines is precluded.
- (c) Hot and cold water in ample supply shall be provided for plant clean up needs where necessary.
- (d) The storage tanks of water should, unless completely sealed, be kept covered, examined regularly and cleaned at least once every six months.

18. Employee Hygiene

- (a) Every person employed in the factory shall be medically examined before employment. Periodical medical examination of the employee shall be subsequently carried out to ensure that they are free from contagious, communicable diseases.
- (b) It shall be impressed upon all employees that they should notify the medical officer, cases of vomiting, diarrhoea, typhoid, dysentery or any other notifiable disease occurring in their own homes and families.
- (c) Employees shall keep their finger nails short and clean and wash their hands with soap or detergent before commencing work and after each absence, specially after using sanitary conveniences. Towels used for drying hands should be clean.
- (d) All employees should be inoculated against typhoid and paratyphoid once in every five years. In case of an epidemic all workers shall be inoculated and a record shall be kept.

(e) No worker shall be allowed to work without proper clothing. Employees shall be provided with clean uniform/aprons and clean washable caps. The uniforms shall not be worn outside the plant but just before starting the work and changed when leaving.

(f) Eating, spitting, nose cleaning, the use of tobacco in any form or chewing betel leaves shall be prohibited within the manufacturing, packing and storage areas of the unit. Notice to this effect shall be prominently displayed.

(g) Sufficient and suitable sanitary conveniences shall be provided, maintained and kept clean. The conveniences shall be properly lighted. No conveniences shall open directly into any work room in the factory.

(h) Sufficient wash basins with adequate provision of soap and towels, latrines and urinals in the prescribed manner should be provided.

MACHINERY

1. Bread manufacturer should preferably have the following special equipments used in preparing bakery products :-

- (a) Mixer. To mix various ingredients to ensure uniform distribution throughout the mass and to form minute bubbles of air to serve as focci for the evolution of carbon dioxide and development of gluten which is critical in the preparation of bread doughs.
- (b) Dough Dividers. To divide a large mass of dough into pieces corresponding to single unit of the finished product.
- (c) Rounders. To close the cut surfaces, from where the gas can readily diffuse. It gives the dough a smooth and dry exterior to reorient the gluten structure.
- (d) Proofing chambers. To hold doughs here in racks under controlled conditions of temperature and humidity before actual baking.
- (e) Baking Equipment. For this purpose conventional/electric ovens may be used.
- (f) Slicing Machine. To slice the cool bread all loaves must be passed through slicing machine.
- (g) Packing Machine. To wrap and pack the bread in clean waxed paper or any other food grade paper to preserve fresh ness, Packing may also be done in printed food grade polythene bag which can be tightened with rubber band.

**TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE
GENERAL OF SUPPLIES AND TRANSPORT)
DEFENCE FOOD SPECIFICATIONS-2020**

SPECIFICATION NO 513: ICE MM

Quality

1. The ice shall be mechanically manufactured, clean, bright and free from deleterious constituents.
2. The ice shall be manufactured from freshly drawn, pure sterilised water only and no other substance of any kind shall be added to the water.
3. The water used for the manufacture of ice shall be from approved sources and shall be sterilized, preferably by super chlorination or chlorination, as considered necessary by the local army medical authorities.
4. The water supply shall be subjected to bacteriological examination at intervals of one month in the first place and, if the samples are found to be universally satisfactory, thereafter at intervals of 3 months.

Packing

5. The ice shall be supplied in slabs of at least one cubic foot in size.
6. The ice shall be delivered in clean covered vehicles and protected by a layer of gunny matting.

Hygiene

7. The ice shall be manufactured in premises maintained in a hygienic condition which shall be open to inspection at any time by the local supply and medical officers concerned.
8. Pure water from the recognized supply only to be used for loosening the blocks of ice in the freezing compartments.
9. Manhandling of the ice blocks will be reduced to a minimum.
10. The hygiene requirements in a factory producing the ice shall be in accordance with appendix 'H'.

Inspection

11. The ice shall be subjected to inspection before acceptance by the purchasing officer and the local medical authorities. The decision of these officers with regard to conformity to the specification will be final.

STANDARD MINIMUM REQUIREMENTS OF HYGIENE IN FOOD FACTORIES

1. To ensure the standard of hygiene in a factory the following minimum requirements shall apply:-
 - (a) **Floors.** The floors should be impervious and kept clean all times.
 - (b) **Lighting and Ventilation.** Adequate standards of lighting (natural and artificial) in working parts of the factory together with adequate ventilation and sufficient space for and protection from machinery.
 - (c) **Fly / Rodent / Pest / Bird Proofing.** Fly / rodent / pest / bird proofing of factory premises to the extent necessary to protect raw material during storage and processing and the manufactured products until it has been packed and the containers sealed.
 - (d) **Water-Supply.** An adequate supply of potable water in the factory and drinking water for the employees will be provided which shall be periodically tested and certified as free from injurious bacteria and other substances by a public health laboratory.
 - (e) **Disposal of Wastes.** An efficient drainage system must be provided with proper methods of disposal of waste water and other effluents. Provision must exist to eliminate dusts/fumes if any.
 - (f) **Conservancy** . A proper conservancy system adequately serviced with approved methods of disposal of human excreta.
 - (g) Additional special hygiene precautions are necessary when waste products which are dangerous or likely to create conditions which are dangerous to health are produced at any stage during handling of raw materials or its manufacture.
 - (h) **Safety.** Adequate fencing of machinery shall be secured in the case of all types of machinery and its moving parts and the moving machinery shall be kept in a position which provides sufficient safeguard against any accident. Each factory must have first aid box with necessary minimum items.
2. **Workers.**
 - (a) So far as the health of the employees is concerned, they shall be periodically examined by Medical Officer and it should be ensured that no individual suffering from any communicable disease or any disability likely to result in contamination of the raw materials, implements, equipments or finished products, is employed.
 - (b) All the employees should be protected against communicable diseases with preventive inoculation / vaccination.
 - (c) Provision for personal hygiene of employees will include potable drinking water, washing facilities (Soap, basin or taps, nail brushes and towels) sanitary annexes and at least two sets of clean clothing for each employees for use only in the factory and masks/ hand gloves where necessary. There should be a separate room for keeping the personal belonging and to change the clothes and for drying of wet clothes.

**THE TECHNICAL STANDARDISATION COMMITTEE (FOOD STUFFS) (DIRECTORATE
GENERAL OF SUPPLIES AND TRANSPORT)**

DEFENCE FOOD SPECIFICATIONS-2020

SPECIFICATION NO 358 : FISH FRESH DRESSED

Quality

1. The fish shall be fresh, sound, and wholesome and in all respects fit for human consumption.
2. The fish tendered shall be of varieties and in proportions approved by the purchasing officer, if necessary, in consultation with the local veterinary authority or the local Medical authority, if the former is NOT available.
3. The fish fresh shall be tendered whole i.e with tail, fins, guts and head. The weight of individual fish shall not be less than 250 gm and maximum number of fish in a kg shall not be more than four.
4. Generally, the fish fresh will only be tendered. However, during the closed and off seasons, fish in frozen state may be tendered, if fresh fish is NOT available.

Packaging

5. The fish shall be supplied in suitable clean containers designed to protect the fish from contamination of any kind.

Inspection

6. After fish tendered by contractors for the Armed Forces has been inspected and passed fit for human consumption by the local Army Veterinary authority or the local Medical authority, if the former is not available, the tail, fins, guts and head will be removed by the contractor. The local supply officer/officer operating the contract shall be the final authority for acceptance.
7. The signs of freshness in fish are as follows:-
 - (a) The fish looks "alive" i.e the eyes are bright and not depressed and dull with greyish pupil.
 - (b) The flesh is firm, elastic and adherent to the bone. If pressed with a finger, the impression of the finger should not persist.
 - (c) The gills are of a bright red colour and not discoloured, greyish or dirty yellow. The skin is unbroken and glistening.
 - (d) The fish is free from the typical odour of staleness or putrefaction.
 - (e) The nape of the fish is firm.
 - (f) The belly cavity is bright and sound, free from discolouration and damage.
8. The fish which will be tendered fresh and whole, after being inspected by the local Army Veterinary authority or the local Medical authority, should be properly eviscerated and washed, its head, tail, fins and guts be removed and the fish wrapped in hygienic containers preferably in polythene bags and issued.