Dr Abhishek Gupta's HYT

Week 1 · Topic 3 · Wednesday

Breast Carcinoma

Subject: Surgery

Asked 44 times

Exam	PYQs
NEET PG	10
INI-CET	7
AIIMS PG	8
FMGE	10
UPSC CMS	9
Total	**44**

Years asked (16): 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026

Asked from 2021 onwards: 25

Decided by PYQs. Not by me. · Revise this free on HYT Revision, by Dr Abhishek Gupta.

2. PYQ Map — every question on Breast Carcinoma

#	Exam	Year	Angle tested
1	FMGE	2026	Preferred tissue diagnosis: core needle biopsy
2	NEET PG	2026	Clustered microcalcifications on mammogram = carcinoma
3	UPSC CMS	2026	Pectoralis fixation is not chest wall: 6 cm = cT3
4	FMGE	2025	Skin dimpling = Cooper's ligament infiltration (image)
5	FMGE	2025	Histology image: mucin lakes = mucinous carcinoma
6	INI-CET	2025	T4b features vs inflammatory carcinoma (T4d)
7	INI-CET	2025	Inflammatory cancer: NACT, then MRM, then RT
8	NEET PG	2025	Peau d'orange (image) = T4b
9	UPSC CMS	2025	Lytic vertebral/rib metastases: look for breast primary
10	UPSC CMS	2025	Stage a 4 cm lump with mobile nodes: cT2N1
11	FMGE	2024	Pre-menopausal ER+ adjuvant: tamoxifen
12	FMGE	2024	Commonest cancer in women: breast
13	INI-CET	2024	Skin ulceration = T4b
14	INI-CET	2024	7 cm + pectoralis + matted nodes = T3N2
15	NEET PG	2024	Liver metastasis (stage IV): systemic therapy first
16	FMGE	2023	Histology image: single-file cells = lobular
17	FMGE	2023	>5 cm with mobile nodes: cT3N1M0; c vs y prefix
18	INI-CET	2023	Most important prognostic factor: nodal status
19	NEET PG	2023	Good prognostic factor: ER positivity
20	FMGE	2022	NOT favourable: HER2 overexpression
21	NEET PG	2022	Peau d'orange (image) = subdermal lymphatics
22	FMGE	2021	Signet-ring cells: colloid carcinoma (as keyed)
23	FMGE	2021	Peau d'orange + satellite nodules = T4b
24	INI-CET	2021	Frozen section: uses and limitation
25	INI-CET	2021	HER2 IHC 2+ needs FISH
26	UPSC CMS	2020	Post-menopausal metastatic: anastrozole first line
27	AIIMS PG	2019	Not LABC: size alone (>4 cm)
28	NEET PG	2019	PMRT when 4 or more nodes positive
29	AIIMS PG	2018	Peau d'orange = lymphatic obstruction
30	AIIMS PG	2017	Axillary USG sensitivity in cN0 axilla
31	AIIMS PG	2017	Follow-up after BCT: clinical exam + annual mammogram
32	NEET PG	2016	T2N2M0 = stage IIIA

33	UPSC CMS	2016	Nottingham Prognostic Index is for breast
34	AIIMS PG	2015	Oncotype DX guides chemo in HR+ disease
35	AIIMS PG	2015	Peau d'orange = subdermal lymphatic obstruction
36	NEET PG	2015	Commonest male breast cancer: ductal
37	UPSC CMS	2015	Inflammatory + 2 nodes = T4dN1M0
38	UPSC CMS	2014	Adjuvant chemo, young ER-negative: CAF
39	NEET PG	2013	Supraclavicular node = N3c; 6 cm = T3
40	AIIMS PG	2012	Not a T4b feature: nipple retraction
41	NEET PG	2012	HER2: responds to monoclonal antibodies
42	UPSC CMS	2012	Most often bilateral: lobular carcinoma
43	UPSC CMS	2012	Inflammatory carcinoma = T4d
44	AIIMS PG	2011	BRCA1 on chromosome 17

What examiners keep asking

1. **TNM staging: T category (pectoralis trap, T4a-d), N category, stage group, LABC definition** — 14 PYQs
2. **Tumour markers and prognosis: nodal status, ER, HER2 (IHC/FISH), NPI, Oncotype DX** — 7 PYQs
3. **Management: endocrine therapy, chemotherapy, PMRT, inflammatory/stage IV cancer, follow-up** — 7 PYQs
4. **Histological types: lobular, mucinous/colloid, male breast cancer, bilaterality** — 5 PYQs
5. **Skin signs and their mechanism: peau d'orange (lymphatics), dimpling (Cooper's ligaments)** — 4 PYQs
6. **Diagnosis: core biopsy, mammographic calcification, frozen section, axillary ultrasound** — 4 PYQs
7. **Epidemiology, genetics and spread: commonest female cancer, BRCA1, bone metastasis** — 3 PYQs

Read the map: one in three questions (14 of 44) is a staging question, and inside staging the favourite is the T4 family — what is T4b, what is T4d, and why pectoralis fixation is not T4a. Peau d'orange is the subject of 5 PYQs (mechanism or stage).

3. Full Concept Notes — Breast Carcinoma

1. Basics and epidemiology

- Breast cancer is the **most common cancer in women worldwide and in India**, and the leading cause of cancer death in Indian women; it has overtaken carcinoma cervix in India. PYQ
- Indian women present about a decade younger than Western women (peak 40-50 years) and more often with locally advanced disease.
- Commonest site: **upper outer quadrant** (most breast tissue, including the axillary tail); least common: lower inner quadrant. Left breast is slightly more often affected.
- About 1% of all breast cancers occur in men. PYQ

2. Risk factors

Group	Risk factors
Hormonal (longer oestrogen exposure)	Early menarche, late menopause, nulliparity, first full-term pregnancy after 30, no breastfeeding, post-menopausal combined HRT, post-menopausal obesity
Genetic (5-10%)	**BRCA1 (17q21)** PYQ , **BRCA2 (13q12-13)**, TP53 (Li-Fraumeni), PTEN (Cowden), CDH1 (hereditary diffuse gastric cancer: lobular), STK11 (Peutz-Jeghers), PALB2, ATM, CHEK2
Breast lesions	Atypical ductal/lobular hyperplasia (about 4-5 times risk), LCIS (risk in both breasts), previous breast cancer
Others	Age (most important single factor after female sex), family history, chest radiation in youth (e.g. mantle RT for Hodgkin lymphoma), alcohol, dense breasts
Protective	Breastfeeding, early first pregnancy, multiparity, physical activity; tamoxifen/raloxifene and risk-reducing surgery in high-risk women

BRCA pair: BRCA1 = chromosome **17** PYQ , triple-negative, medullary-pattern cancers, high ovarian risk. BRCA2 = chromosome **13**, **male breast cancer**, prostate and pancreatic cancer. Both are tumour-suppressor DNA-repair genes (homologous recombination), autosomal dominant; their cancers respond to PARP inhibitors (olaparib).

3. Surgical anatomy that examiners use

- **Cooper's (suspensory) ligaments**: fibrous septa from the pectoral fascia to the dermis. Tumour infiltration and fibrosis shortens them → **skin dimpling**. PYQ
- **Subdermal lymphatic plexus**: blockage by tumour emboli → skin oedema → **peau d'orange**. PYQ
- Lymph drainage: about 75% to the **axillary** nodes, most of the rest to the **internal mammary** nodes (medial quadrants). Axillary levels are defined by **pectoralis minor**: level I lateral (lower border), level II behind (includes Rotter's interpectoral nodes), level III medial (apical/infraclavicular).
- Nerves at risk in axillary dissection: **long thoracic** (serratus anterior → winged scapula), **thoracodorsal** (latissimus dorsi), **intercostobrachial** (most often divided → numbness of inner upper arm), medial and lateral pectoral nerves.

M Category	M Criteria
M0	No clinical or imaging evidence of distant metastases
cM0(i+)	No clinical or imaging evidence of distant metastases, but with tumor cells or deposits measuring ≤0.2 mm detected in circulating blood, bone marrow, or other nonregional nodal tissue in the absence of clinical signs and symptoms of metastases
cM1	Distant metastases on the basis of clinical or imaging findings
pM1	Histologically proven distant metastases in solid organs; or, if in nonregional nodes, metastases measuring >0.2 mm

Axillary lymph node levels I, II and III, defined by their relation to pectoralis minor; used in N staging and in describing the extent of axillary dissection.

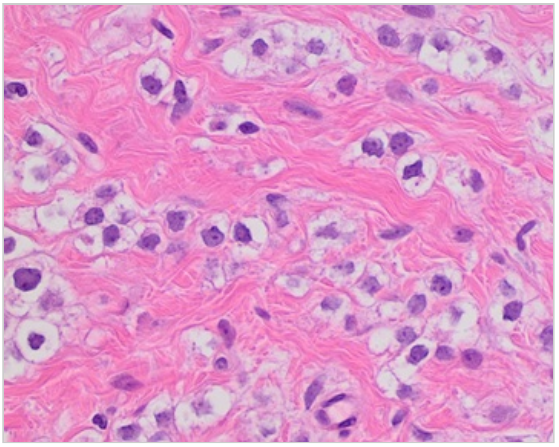
4. Pathology

4a. Non-invasive (in situ)

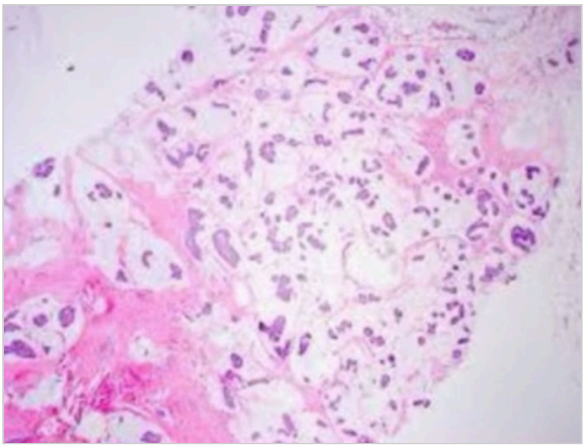
	DCIS	LCIS (lobular neoplasia)
Nature	True precursor of invasive ductal cancer	Mainly a **risk marker** for both breasts (classic LCIS)
Detection	Microcalcifications on mammogram (comedo type: central necrosis)	Incidental; no mass, no calcification
Distribution	Segmental, usually unilateral	**Multicentric and bilateral** PYQ
E-cadherin	Retained	Lost
Treatment	BCS (2 mm margin) + RT, or mastectomy if extensive; tamoxifen if ER+; no ALND	Surveillance ± chemoprevention (tamoxifen); excision for pleomorphic/florid LCIS

4b. Invasive carcinoma: types

Type	Key features	Prognosis
Invasive ductal (NST)	70-80% of all; commonest type; also commonest in **men** PYQ ; hard, gritty, stellate mass	Depends on grade, stage, receptors
Invasive lobular	5-15%; **E-cadherin (CDH1) loss**; dyscohesive cells in **single file** PYQ , targetoid pattern, signet-ring cells; **most often bilateral and multicentric** PYQ ; poorly seen on mammogram (use MRI); metastasises to peritoneum, GI tract, ovaries (Krukenberg), meninges	Similar to NST; usually ER+
Mucinous (colloid)	Older women; soft, well circumscribed; tumour cells floating in **lakes of extracellular mucin** PYQ ; ER+	Good
Tubular	Well-formed tubules, small tumours, ER+	Best of all
Carcinoma with medullary pattern	Syncytial sheets of high-grade cells, pushing border, dense lymphocytic infiltrate; triple-negative; **BRCA1**	Better than its grade suggests
Papillary, cribriform, adenoid cystic	Special types	Good
Metaplastic	Squamous/spindle/chondroid differentiation; triple-negative	Poor
Inflammatory	A **clinical** entity (not a histological type): tumour emboli in dermal lymphatics	Poor; T4d



Invasive lobular carcinoma: small, uniform, dyscohesive tumour cells infiltrating the stroma in single-file ('Indian file') cords.



Mucinous (colloid) carcinoma: clusters of low-grade tumour cells floating in lakes of extracellular mucin.

Trap: Signet-ring cells in the breast — classically invasive **lobular** carcinoma (intracytoplasmic mucin). Colloid carcinoma = extracellular mucin lakes. If lobular is not among the options, the mucin-producing colloid carcinoma is the keyed answer PYQ .

4c. Paget's disease of the nipple

- Eczema-like erosion that **starts at the nipple** and spreads to the areola (true eczema starts on the areola, is bilateral and itchy, and spares the nipple).
- Large pale Paget cells (usually HER2-positive) in the epidermis; almost always an underlying **DCIS or invasive carcinoma**. Biopsy (punch/wedge) of the nipple + mammogram.



Paget's disease of the nipple: eczematous erosion and crusting involving the nipple and areola.

4d. Molecular subtypes

Subtype	Receptors	Behaviour / treatment
Luminal A	ER+, PR+, HER2−, Ki-67 low	Commonest; best prognosis; endocrine therapy
Luminal B	ER+, HER2− with high Ki-67/low PR, or ER+ HER2+	Endocrine ± chemo ± anti-HER2
HER2-enriched	ER−, PR−, HER2+	Aggressive; trastuzumab + pertuzumab with chemo
Triple-negative / basal-like	ER−, PR−, HER2−	Young women, BRCA1; worst prognosis; chemo (platinum, pembrolizumab, PARP inhibitor if BRCA)

Table I: Breast cancer stratification

	Receptor Status				
Type	ER	PR	HER-2	Distribution of BC Cases	Prognosis
Luminal A	+	+	-	50%	Good
Luminal B	+	+	±	20%	Fair
HER-2+	-	-	+	15%	Poor
Basal/TNBC	-	-	-	15%	Poor

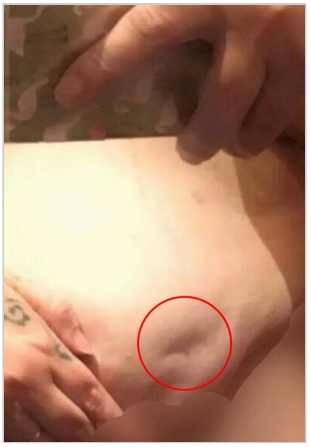
ER: Estrogen receptor, PR: progesterone receptor, HER: Human epidemal growth factor receptor, BC: breast cancer, TNBC: triple negative breast cancer

Source: Biyskin, N et al (2015). Molecular Classification of Breast Carinoma from Traditional, Old-Fashioned Way to A New Age, and A New Way, *J Breast Health*

Luminal A carcinoma on immunohistochemistry: strong nuclear ER and PR staining with absent membrane HER2 staining.

5. Clinical features

- Commonest presentation: **painless, hard, irregular lump**, often in the upper outer quadrant; later fixity, skin changes and axillary nodes.
- **Skin dimpling / puckering**: Cooper's ligament infiltration PYQ . Seen best with the arms raised or with pectoralis contracted.
- **Nipple retraction**: fibrosis around ducts; can occur with small tumours — it is **not** a T4b feature PYQ .
- **Peau d'orange**: subdermal lymphatic obstruction → skin oedema tethered at hair follicles/sweat ducts PYQ . Staged **T4b** PYQ .
- Skin **ulceration** and ipsilateral **satellite skin nodules**: T4b PYQ . Diffuse spread through the skin of the chest wall = cancer en cuirasse.
- **Fixity**: to pectoralis major (tested by contracting the muscle with hands pressed on hips) — does **not** make T4a PYQ ; to the chest wall (ribs, intercostals, serratus anterior) = T4a.
- **Inflammatory carcinoma**: rapid onset (<6 months), diffuse erythema, warmth and oedema over ≥1/3 of the breast, often no discrete lump; mimics mastitis/abscess — a 'breast abscess' not settling on antibiotics needs a biopsy PYQ .
- Bloody nipple discharge (commonest cause overall: intraductal papilloma), axillary or supraclavicular nodes, arm oedema.
- Metastasis: **bone** commonest distant site (spine, ribs, pelvis, femur; mostly lytic) PYQ , then lung/pleura, liver, brain. Hypercalcaemia, pathological fracture and cord compression are oncological emergencies.



Skin dimpling over a breast carcinoma (lateral view), caused by tethering of the skin through shortened Cooper's ligaments.



Peau d'orange: pitted, oedematous skin over a hard mass, due to obstruction of subdermal lymphatics by tumour emboli.

6. Investigations

6a. Triple assessment PYQ

Step	What is done
Clinical	History, both breasts, both axillae, supraclavicular fossae
Imaging	**Ultrasound** under about 35 years (dense breasts) and to guide biopsy; **mammography** (craniocaudal + mediolateral oblique) from 35-40 years, plus ultrasound; **MRI** for lobular cancer, BRCA carriers, implants, occult primary with axillary nodes, extent before BCS, response to NACT
Tissue	**Image-guided core needle biopsy** = preferred PYQ ; vacuum-assisted/stereotactic biopsy for microcalcifications; FNAC mainly for axillary nodes

Mammographic signs of malignancy: spiculated (stellate) high-density mass, **clustered fine pleomorphic or linear branching microcalcifications** PYQ , architectural distortion, skin thickening, nipple retraction.



Mammogram of breast carcinoma: a high-density spiculated mass with pleomorphic microcalcifications.

BI-RADS	Meaning	Action
0	Incomplete	More imaging
1 / 2	Negative / benign	Routine screening
3	Probably benign (≤2% malignant)	Short-interval (6-month) follow-up
4 (A, B, C)	Suspicious (2-95%)	Biopsy
5	Highly suggestive of malignancy (≥95%) PYQ	Biopsy
6	Biopsy-proven malignancy	Treat

6b. Receptors and markers on the core biopsy

- **ER and PR** by IHC (Allred score / % positive nuclei); ≥1% = positive.
- **HER2** by IHC: 0 / 1+ = negative; **2+ = equivocal → FISH/ISH** PYQ ; 3+ = positive.
- Ki-67 (proliferation), grade (Nottingham: tubule formation + nuclear pleomorphism + mitoses).

6c. Axilla and staging work-up

- Axillary ultrasound ± FNAC/core of suspicious nodes; sensitivity in a clinically node-negative axilla is only moderate (around 55-60%) PYQ , so a normal scan does not replace sentinel node biopsy.
- **Early cancer (T1-2, N0-1)**: metastatic work-up only if symptoms or abnormal blood tests.
- **Locally advanced (T3/T4, N2/N3) or inflammatory**: CECT chest-abdomen-pelvis + bone scan, or whole-body PET-CT, before treatment PYQ .
- Frozen section: intra-operative margins and sentinel node status; it does **not** give a definitive diagnosis in all cases PYQ .

7. TNM staging (AJCC 8th edition, anatomic) — the most-asked area

T	Definition
Tis	DCIS; Paget's disease of nipple without underlying invasive tumour
T1	≤2 cm (T1mi ≤1 mm; T1a >1-5 mm; T1b >5-10 mm; T1c >10-20 mm)
T2	>2 cm to ≤5 cm PYQ
T3	>5 cm PYQ
T4a	Extension to **chest wall** (ribs, intercostal muscles, serratus anterior) — **invasion of pectoral muscle alone does not qualify** PYQ
T4b	Skin: **ulceration**, ipsilateral **satellite skin nodules**, **oedema including peau d'orange** not meeting inflammatory criteria PYQ
T4c	T4a + T4b
T4d	**Inflammatory carcinoma** PYQ

Clinical N	Definition
cN1	Ipsilateral level I/II axillary nodes, **mobile** PYQ
cN2a	Ipsilateral level I/II axillary nodes **fixed or matted** PYQ
cN2b	Internal mammary nodes without axillary nodes
cN3a	Infraclavicular (level III) nodes
cN3b	Internal mammary + axillary nodes
cN3c	**Supraclavicular** nodes PYQ

Pathological N (after surgery) counts nodes: pN1 = 1-3, pN2 = 4-9, pN3 = ≥10 positive axillary nodes. M1 = distant metastasis (including contralateral axillary nodes). Prefixes: **c** clinical, **p** pathological, **y** after neoadjuvant therapy, **r** recurrence PYQ .

Stage group	TNM combinations
0	Tis N0 M0
IA / IB	T1 N0 / T0-1 N1mi
IIA	T0-1 N1; T2 N0
IIB	T2 N1; T3 N0
IIIA	**T0-2 N2; T3 N1-2** PYQ
IIIB	T4 N0-2
IIIC	Any T N3
IV	Any T any N M1

Early breast cancer = stage I-II (T1-2 N0-1, and T3N0); **locally advanced breast cancer (LABC) = stage III** (T3N1, any T4 including inflammatory, N2-N3); size alone (e.g. a 4 cm lump) does not make a cancer locally advanced PYQ . The AJCC 8th edition adds a *prognostic* stage that also uses grade, ER, PR and HER2; exams use the anatomic stage.

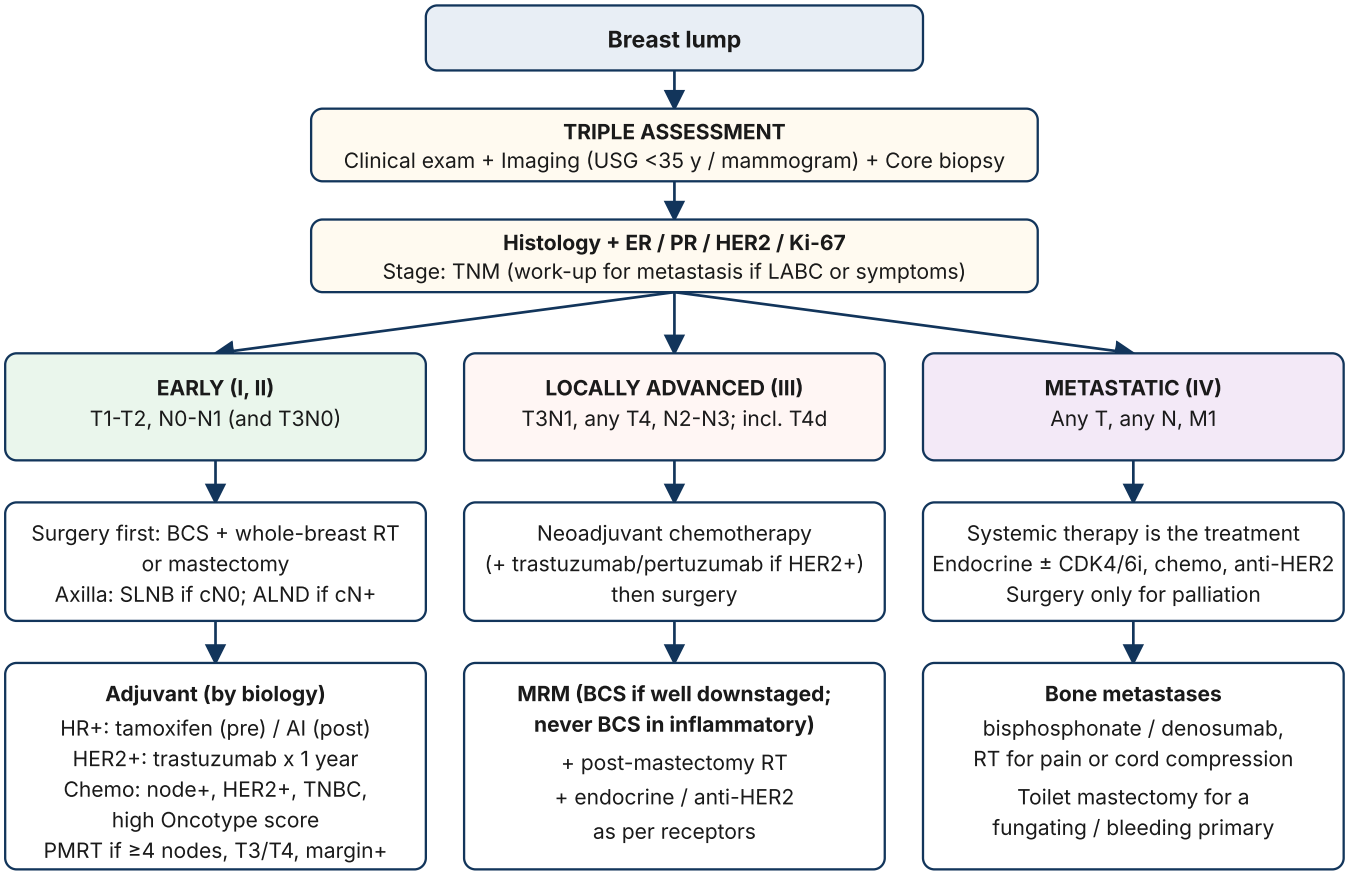


Schematic of breast cancer TNM staging: increasing tumour size, skin and chest-wall extension, and nodal spread from in-situ disease to advanced stages.

The four staging traps (each asked repeatedly):
1. Fixed to **pectoralis major** only → still staged by size (a 6 cm tumour = T3) PYQ .
2. **Dimpling and nipple retraction** are not T4b PYQ .
3. **Peau d'orange** alone = T4b; it is T4d only with the full inflammatory picture (≥1/3 of breast) PYQ .
4. **Mobile** axillary nodes = N1; **fixed/matted** = N2; **supraclavicular** = N3c PYQ .

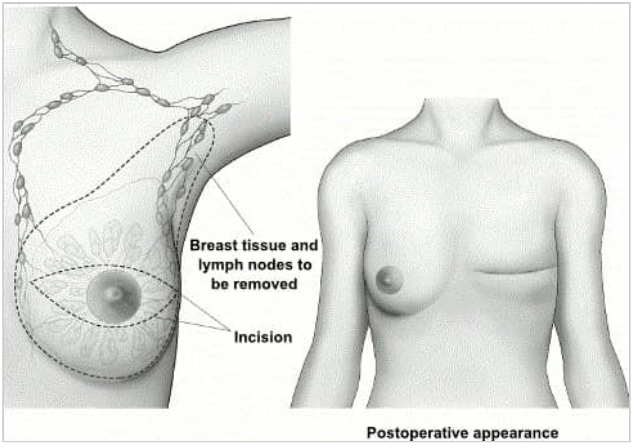
8. Management

Algorithm (drawn for this package)



8a. Surgery of the breast

- **Breast-conserving surgery (BCS)** = wide local excision with clear margins (invasive cancer: 'no ink on tumour'; DCIS: 2 mm) + **whole-breast radiotherapy** (mandatory). Survival equals mastectomy.
- Contraindications to BCS: multicentric disease (two quadrants), diffuse malignant-looking microcalcifications, persistently positive margins, previous chest/breast radiotherapy, pregnancy where RT cannot be delayed, **inflammatory carcinoma**; relative: large tumour in a small breast, active scleroderma/SLE.
- **Modified radical mastectomy (MRM)**: breast + axillary nodes, pectoralis major preserved. Patey: removes pectoralis minor; Scanlon: divides it; Auchincloss: preserves both (commonest). Halsted radical mastectomy (removes both pectoral muscles) is obsolete except for tumour invading pectoralis major after NACT.
- Reconstruction (immediate or delayed): implant, LD flap, TRAM/DIEP flap.



Modified radical mastectomy: en-bloc removal of the breast with the axillary lymph nodes, preserving pectoralis major.

8b. Surgery of the axilla

- Clinically node-negative (cN0): **sentinel lymph node biopsy** (Tc-99m sulphur colloid ± isosulfan/methylene blue dye).
- SLN negative: no further axillary surgery. 1-2 positive SLN with BCS + whole-breast RT (ACOSOG Z0011 criteria): axillary dissection can be omitted. Otherwise, or cN+ proven: **axillary lymph node dissection** (levels I-II) or axillary RT.
- SLNB is not done in inflammatory cancer.

8c. Systemic therapy

Therapy	Used for	Exam points
Tamoxifen (SERM)	ER/PR+, **pre-menopausal** PYQ (also post-menopausal); DCIS; chemoprevention	20 mg daily for 5-10 years. Side effects: endometrial hyperplasia/cancer, DVT/PE, hot flushes, cataract; protects bone after menopause
Aromatase inhibitors (anastrozole, letrozole, exemestane)	ER/PR+, **post-menopausal** — adjuvant and **first-line metastatic** PYQ	Block peripheral aromatisation; not alone in pre-menopausal women (need ovarian suppression) PYQ . Side effects: arthralgia, **osteoporosis**
Ovarian suppression (goserelin, oophorectomy)	High-risk pre-menopausal ER+	With tamoxifen or an AI
CDK4/6 inhibitors (palbociclib, ribociclib, abemaciclib)	HR+ HER2− metastatic (with AI/fulvestrant); high-risk early	Neutropenia
Trastuzumab (± pertuzumab)	**HER2+** (IHC 3+ or FISH amplified) PYQ	Given for 1 year; **cardiotoxicity** (monitor LVEF); T-DM1 for residual disease after NACT
Chemotherapy	Node+, HER2+, triple-negative, ER− PYQ , young age, high genomic score; all LABC (neoadjuvant)	Classic: CMF, then anthracycline-based **CAF/FAC** PYQ ; standard: anthracycline + taxane (AC → paclitaxel); TNBC: add platinum/pembrolizumab
Genomic assays	ER+ HER2− early disease	**Oncotype DX** (21-gene) decides whether to add **chemotherapy** to endocrine therapy PYQ ; MammaPrint (70-gene)
PARP inhibitor (olaparib)	Germline BRCA-mutated	Synthetic lethality

8d. Radiotherapy

- After BCS: whole-breast RT (usually hypofractionated, e.g. 40 Gy in 15 fractions) ± tumour-bed boost.
- **Post-mastectomy RT (PMRT): ≥4 positive axillary nodes** PYQ , T3/T4 tumours (T3N1), positive or close margins; considered for 1-3 positive nodes; always after NACT for LABC/inflammatory cancer.

8e. By stage

Situation	Plan
Early (I-II)	Surgery first (BCS + RT or MRM; SLNB/ALND) → adjuvant therapy by receptors. NACT is also used in HER2+ or TNBC >2 cm, or to downstage for BCS
LABC (III)	**Neoadjuvant chemotherapy** (+ anti-HER2) → MRM (or BCS if well downstaged) → PMRT → endocrine therapy if HR+
Inflammatory (T4d)	**NACT → MRM with ALND → chest-wall RT** PYQ ; never upfront surgery, never BCS, no SLNB
Metastatic (IV)	**Systemic therapy first** PYQ : HR+ → AI ± CDK4/6 inhibitor; HER2+ → trastuzumab + pertuzumab + taxane; TNBC → chemo. Surgery only for palliation (toilet mastectomy). Bone: bisphosphonate/denosumab, RT
Pregnancy	Mastectomy is safe in any trimester; chemotherapy after the first trimester; avoid tamoxifen, trastuzumab and RT during pregnancy
Male	Mastectomy + SLNB/ALND; tamoxifen for ER+ (most)

8f. Follow-up

History and clinical examination every 3-6 months for 3 years, 6-12 monthly till 5 years, then yearly, + **annual mammography**. No routine tumour markers, bone scans, LFTs or CT in asymptomatic women PYQ . Annual gynaecological review if on tamoxifen; bone density if on an AI.

9. Prognosis

- **Axillary lymph node status** = the single most important prognostic factor PYQ ; worse with more nodes (1-3, 4-9, ≥10).
- Others: tumour size, grade, lymphovascular invasion, receptor status, HER2, Ki-67, age (<35 worse), margin status.
- Favourable: ER/PR+ (luminal) PYQ , low Ki-67, special types (tubular, mucinous, papillary, adenoid cystic) PYQ . Unfavourable: **HER2 overexpression** PYQ , triple-negative, high grade, inflammatory.
- ER and HER2 are both **prognostic** and **predictive**; size and nodes are prognostic only.
- **Nottingham Prognostic Index** (breast) PYQ = 0.2 × size (cm) + node stage (1-3) + grade (1-3): ≤3.4 good, 3.41-5.4 moderate, >5.4 poor.

10. Screening and prevention (Indian context)

- Government of India: population-based screening for common NCDs, including breast cancer, under the **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)**: **clinical breast examination** by trained health workers for women aged 30-65 years, once every 5 years, at Ayushman Arogya Mandir (Health and Wellness Centres); screen-positive women are referred for ultrasound/mammography and biopsy. Breast self-awareness is promoted.
- Mammographic screening in resource-rich settings: every 1-2 years from 40-50 to about 74 years.
- High risk (BRCA carriers): annual MRI from 25-30 years and mammography from 30; options include tamoxifen chemoprevention, risk-reducing bilateral mastectomy and risk-reducing salpingo-oophorectomy.

11. Special exam points

- Peau d'orange = **subdermal lymphatic obstruction** (asked 3 times as mechanism) → T4b.
- Dimpling = **Cooper's ligaments**; not T4.
- Inflammatory carcinoma = **T4d** → NACT → MRM → RT.
- Pectoralis major fixation is **not** chest wall.
- Supraclavicular node = **N3c**; matted axillary nodes = N2.
- Most important prognostic factor = **axillary nodes**; NPI is for breast.
- HER2 2+ → **FISH**; HER2+ → trastuzumab (cardiotoxic).
- Pre-menopausal ER+ → **tamoxifen**; post-menopausal → **aromatase inhibitor**.
- Oncotype DX → chemotherapy decision in ER+ HER2− disease.
- Lobular = E-cadherin loss, single file, bilateral; male breast cancer = ductal, BRCA2.

4. High Yield Notes — Breast Carcinoma

Ordered by how often examiners ask it.

Staging (14 PYQs)

Finding	Category
≤2 cm / >2-5 cm / >5 cm	T1 / T2 / T3
Fixed to pectoralis major only	Stage by size (NOT T4a)
Chest wall: ribs, intercostals, serratus anterior	T4a
Ulceration, satellite skin nodules, oedema/peau d'orange	T4b
T4a + T4b	T4c
Inflammatory carcinoma (erythema/oedema ≥1/3 breast)	T4d
Dimpling, nipple retraction, dermal invasion alone	Not T4
Mobile ipsilateral axillary nodes / fixed or matted / supraclavicular	N1 / N2a / N3c
T2N2, T3N1 / any T4 (N0-2) / any N3	IIIA / IIIB / IIIC
LABC	Stage III (size alone does not qualify)

Markers and prognosis (7)

- Most important prognostic factor: axillary node status.
- Good: ER+, luminal, low Ki-67, mucinous/tubular. Bad: HER2+, triple-negative, high grade.
- HER2 IHC 2+ → FISH. HER2+ responds to monoclonal antibodies (trastuzumab).
- NPI = 0.2 × size + node stage + grade (breast). Oncotype DX = chemo or not in HR+.

Management (7)

- Pre-menopausal ER+: tamoxifen. Post-menopausal (incl. metastatic): anastrozole.
- Young ER−: anthracycline chemo (CAF classic; AC → taxane standard).
- PMRT: ≥4 nodes, T3/T4, positive margins.
- Inflammatory: NACT → MRM → RT. Stage IV: systemic therapy first.
- Follow-up: clinical exam + annual mammogram; no routine markers/scans.

Pathology (5)

- Lobular: single file, E-cadherin loss, most often bilateral/multicentric.
- Mucinous (colloid): mucin lakes, older women, good prognosis.
- Male breast cancer: infiltrating ductal; BRCA2.

Skin signs (4) and diagnosis (4)

- Peau d'orange = subdermal lymphatic obstruction. Dimpling = Cooper's ligaments.
- Tissue diagnosis: image-guided core needle biopsy. Clustered microcalcifications = carcinoma.
- Frozen section: margins and SLN; not a definitive diagnosis in all cases.
- Axillary USG in cN0: sensitivity about 55-60%; SLNB still needed.

Epidemiology and genetics (3)

- Commonest cancer in women (world and India). BRCA1 = chr 17; BRCA2 = chr 13.
- Lytic spine/rib lesions in a woman: look for a breast primary.

If you remember one thing: Stage the tumour by size first; it becomes T4 only with chest wall (not pectoralis), skin (ulcer, satellite nodules, peau d'orange = T4b) or inflammatory carcinoma (T4d) — and inflammatory cancer always gets chemotherapy before surgery.

5. All PYQs on Breast Carcinoma (44, newest first)

1. FMGE 2026

A 40-year-old woman presents with a palpable mass in her left breast. Mammography is performed, and a biopsy is recommended. Which of the following is the preferred method for tissue diagnosis?

A. Core needle biopsy
B. Fine-needle aspiration cytology
C. Incisional biopsy
D. Excisional biopsy

Answer: **A. Core needle biopsy**

Triple assessment = clinical examination + imaging + needle biopsy. The tissue step of choice is **image-guided core needle biopsy** (14-16 G).
Core biopsy gives histology: it separates invasive cancer from in-situ disease, gives type and grade, and allows ER, PR, HER2 and Ki-67 testing before any treatment.
FNAC gives cytology only (cannot show invasion, no reliable receptor status); it is now used mainly for suspicious axillary nodes.
Incisional/excisional (open) biopsy is reserved for when needle biopsy is non-diagnostic or discordant.

2. NEET PG 2026

A patient presents with a breast lump. Mammography shows a suspicious lesion with clustered calcifications. What is the most likely diagnosis?

A. Fibroadenoma
B. Breast carcinoma
C. Breast cyst
D. Lipoma

Answer: **B. Breast carcinoma**

A suspicious mammographic lesion with **clustered (grouped) microcalcifications** is breast carcinoma until proved otherwise, most often DCIS or invasive cancer arising in it.
Suspicious morphology: fine pleomorphic, fine linear/linear-branching (casting) calcification in a clustered, linear or segmental distribution.
Benign patterns: coarse 'popcorn' (involuting fibroadenoma), rim/eggshell (fat necrosis, oil cyst), large rod-like (duct ectasia), 'teacup' milk of calcium (cysts).
Lipoma is radiolucent; a simple cyst is a smooth, well-circumscribed lesion (anechoic on ultrasound).

3. UPSC CMS 2026

A 45-year-old lady presents with a hard lump in the left breast. On examination, the lump is found to be 4 cm × 6 cm in size, not fixed to the skin, but fixed to the underlying pectoralis major muscle. The T stage of this is

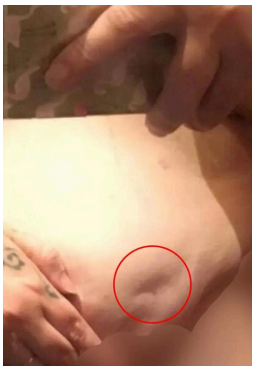
A. cT4a
B. cT3
C. cT4b
D. cT2

Answer: **B. cT3**

T stage by size: T1 ≤2 cm, T2 >2-5 cm, T3 >5 cm. This lump is 6 cm in greatest dimension = T3.
T4a needs extension to the **chest wall = ribs, intercostal muscles, serratus anterior**. Invasion of or fixity to **pectoralis major alone does NOT count** as chest-wall involvement.
Not fixed to skin, so not T4b. Answer: cT3.

4. FMGE 2025

Image of breast with skin dimpling shown. What is it due to infiltration of?



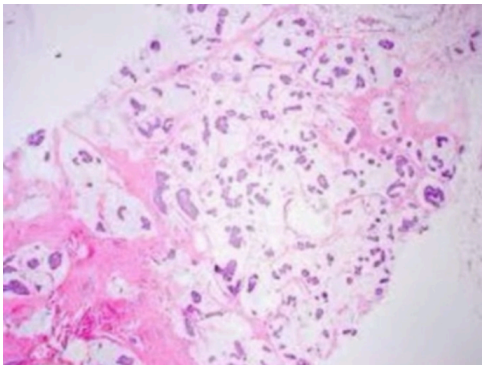
A. Cooper’s ligaments
B. Lactiferous ducts
C. Dermal lymphatics
D. Suspensory fascia

Answer: **A. Cooper’s ligaments**

Skin dimpling over a breast cancer is due to infiltration and desmoplastic shortening of **Cooper's (suspensory) ligaments**, which tether the skin inwards.
One shortened ligament = a dimple; many = puckering; involvement near the nipple/ducts = nipple retraction.
Dermal lymphatic obstruction produces peau d'orange, not dimpling. Dimpling does not upstage the tumour to T4.

5. FMGE 2025

A 50-year-old female presented with a breast mass, which was operated on. Microscopic examination is given. What is the diagnosis?



A. Lobular Carcinoma Breast
B. Medullary Carcinoma
C. Mucinous Carcinoma Breast
D. Phyllodes Tumor

Answer: **C. Mucinous Carcinoma Breast**

Clusters of low-grade tumour cells floating in **lakes of extracellular mucin** = mucinous (colloid) carcinoma. Typically older (post-menopausal) women, soft, well-circumscribed, almost always ER-positive/HER2-negative, with a favourable prognosis.
Lobular: single-file dyscohesive cells. Medullary pattern: syncytial sheets of high-grade cells with dense lymphocytic infiltrate. Phyllodes: leaf-like fibroepithelial tumour with cellular stroma.

6. INI-CET 2025

Which of the following is not included in stage 4B of breast cancer?

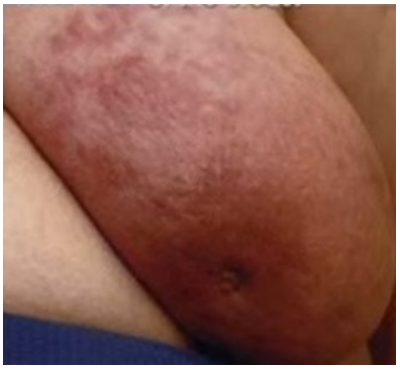
A. Ulceration
B. Peau d'orange
C. Satellite nodule
D. Cellulitis/erythema over one-third of the breast (inflammatory breast cancer)

Answer: **D. Cellulitis/erythema over one-third of the breast (inflammatory breast cancer)**

T4b = **skin** involvement: ulceration, ipsilateral satellite skin nodules, or oedema including peau d'orange (not meeting inflammatory criteria).
Diffuse erythema and oedema involving **one-third or more** of the breast is **inflammatory carcinoma = T4d**, a separate category.
T4a = chest wall (not pectoralis alone); T4c = 4a + 4b.

7. INI-CET 2025

A woman presented with the following findings in left breast for 3 months and pain for 2 months. What is the management plan for the following?



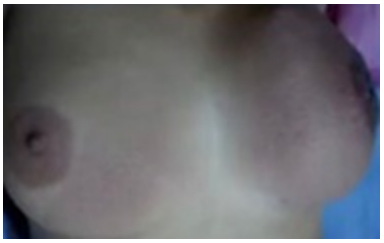
A. Simple mastectomy followed by management of complication
B. Neoadjuvant chemotherapy followed by radical mastectomy
C. Radical mastectomy with Axillary Lymph node dissection
D. Neoadjuvant chemotherapy followed by MRM and RT

Answer: **D. Neoadjuvant chemotherapy followed by MRM and RT**

The picture and short history (diffuse redness, swelling, pain over weeks) indicate **inflammatory breast cancer (T4d)** — locally advanced by definition.
Sequence (trimodality): **neoadjuvant chemotherapy** (with anti-HER2 therapy if HER2+) → **modified radical mastectomy** (with axillary dissection) → **post-mastectomy radiotherapy** → endocrine therapy if receptor-positive.
Upfront surgery leaves positive margins; breast conservation and sentinel node biopsy are contraindicated in inflammatory cancer. Metastatic work-up (CT/bone scan or PET-CT) is done first.

8. NEET PG 2025

A 43-year-old female presents to the OPD with changes in the breast and a palpable lump. On examination, there is skin thickening and the appearance of peau d'orange over the breast. What is the likely diagnosis?



A. T3
B. T4b
C. T4c
D. T4d

Answer: **B. T4b**

Peau d'orange = skin oedema from tumour emboli blocking the subdermal lymphatics; the skin stays tethered at hair follicles and sweat-duct openings, giving the orange-peel pits.
In AJCC TNM, skin oedema (including peau d'orange), ulceration or ipsilateral satellite nodules = **T4b**, whatever the tumour size.
T4d is used only when the clinical picture is inflammatory carcinoma (diffuse erythema/oedema of ≥1/3 of the breast).

9. UPSC CMS 2025

A 60-year-old female presents with pain in her back of recent onset, which has become severe of late. During the course of investigations, she was found to have lytic lesions in the vertebrae and ribs. Which of the following organs should be carefully screened now for detecting the primary cause of these lesions?

A. Small intestine
B. Large intestine
C. Adrenal
D. Breast

Answer: **D. Breast**

Lytic lesions in vertebrae and ribs of an older woman = skeletal metastases until proved otherwise.
Breast, prostate, lung, kidney and thyroid cause most bone secondaries; in a woman, **breast** is the commonest primary, and is easy to screen by clinical examination and mammography.
Breast metastases are usually lytic (can be mixed); the spine is the commonest site (Batson's valveless vertebral venous plexus).

10. UPSC CMS 2025

A 45-year-old lady presents with history of a painless lump in the right breast since 1 month. On examination, the lump is hard, 3 × 4 cm in size in the upper outer quadrant and is not fixed to the skin or the underlying structures. The axilla reveals firm mobile lymph nodes (level I). Rest of systemic examination is normal. The clinical stage of this disease is:

A. $cT_1N_1M_x$
B. $cT_2N_1M_x$
C. $cT_3N_1M_x$
D. $cT_3N_2M_x$

Answer: **B. $cT_2N_1M_x$**

3 × 4 cm: greatest dimension 4 cm (>2 to ≤5 cm) = **T2**.
Firm, **mobile** ipsilateral level I axillary nodes = **cN1** (fixed/matted would be cN2a).
Distant metastasis not assessed = **Mx** (note: AJCC 8 no longer uses Mx formally; clinically M0 is assigned if no signs, but the exam keeps Mx). Answer cT2N1Mx.

11. FMGE 2024

The drug used in a 55-year-old pre-menopausal patient with ER+, PR+ on IHC along with lymph node positive and diagnosed with early invasive breast cancer?

A. Tamoxifen
B. Anastrozole
C. Trastuzumab
D. All of the above

Answer: **A. Tamoxifen**

Pre-menopausal + ER/PR-positive early breast cancer: the adjuvant endocrine agent is **tamoxifen** (SERM) for 5-10 years; high-risk women may get ovarian suppression plus tamoxifen or an aromatase inhibitor.
Aromatase inhibitors (anastrozole) alone are ineffective in pre-menopausal women (ovaries keep producing oestrogen) — they need ovarian suppression.
Trastuzumab is used only if HER2-positive. Node-positive disease will also need chemotherapy, but the endocrine drug here is tamoxifen.

12. FMGE 2024

Which of the following is the most common type of cancer among females?

A. Breast cancer
B. Cervical cancer
C. Ovarian cancer
D. Colorectal cancer

Answer: **A. Breast cancer**

Breast cancer is the most common cancer in women worldwide and in India (it has overtaken cervical cancer in India).
It is also the leading cause of cancer death in women in India. Cervical cancer is second among Indian women.

13. INI-CET 2024

A 52-year-old patient diagnosed with invasive ductal carcinoma presents with skin ulceration, inflammatory signs, and nipple retraction. This patient should be classified under which stage?

A. Stage 3
B. Stage 4 with node positivity
C. T4b
D. No metastasis

Answer: **C. T4b**

Skin ulceration with nipple retraction in invasive ductal carcinoma: the skin ulcer places the tumour in **T4b** (skin: ulceration, satellite nodules, oedema/peau d'orange).
Nipple retraction by itself does not make it T4. No distant spread is mentioned, so 'Stage 4' is wrong.
Note for Dr Gupta: check answer — the stem also says 'inflammatory signs'; if that means diffuse erythema of ≥1/3 of the breast, the category would be T4d. Stored answer T4b kept (ulceration is the explicit T4b feature).

14. INI-CET 2024

A breast cancer case with a tumor measuring 6 × 7 cm, invading the pectoralis major muscle, associated with ipsilateral matted axillary lymph nodes and dimpling, belongs to which of the following categories?

A. T3 N2
B. T4b N1
C. T4a
D. T2

Answer: **A. T3 N2**

6 × 7 cm = >5 cm = **T3**. Pectoralis major invasion is **not** chest-wall involvement (T4a needs ribs, intercostals or serratus anterior); dimpling is not T4b.
Matted ipsilateral axillary nodes = **N2** (N2a: fixed/matted). So T3 N2 (stage IIIA if M0).
Being T3/N2, this is locally advanced — CECT chest-abdomen-pelvis and bone scan (or PET-CT) are needed before treatment.

15. NEET PG 2024

A patient presents to the OPD with a right-sided ulcerated breast lesion. Radiological imaging shows liver metastasis, as seen in the provided ultrasound image. What is the most appropriate management? *(image in app)*

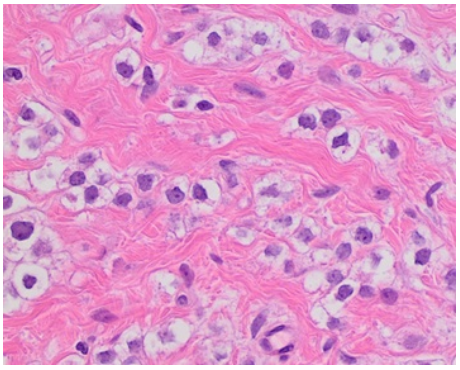
A. Simple mastectomy
B. Modified Radical Mastectomy (MRM)
C. Radical mastectomy
D. Neoadjuvant chemotherapy followed by surgery

Answer: **D. Neoadjuvant chemotherapy followed by surgery**

Liver metastasis = M1 = **stage IV**. Metastatic breast cancer is treated as a systemic disease: chemotherapy, endocrine and/or anti-HER2 therapy chosen by receptor status.
No primary curative mastectomy (simple, MRM or radical) as the first step. Surgery of the primary is reserved for selected responders or palliation of a fungating, ulcerated or bleeding tumour ('toilet mastectomy').
Of the options, systemic chemotherapy first, then surgery, is the best answer.

16. FMGE 2023

A 55-year-old woman presents with a firm, irregular, poorly defined mass in the upper outer quadrant of her right breast. A core biopsy of the lesion is performed. The histopathology slide demonstrates small, uniform tumour cells infiltrating the stroma in single-file linear strands with loss of cohesion. Based on these findings, what is the most likely diagnosis?



A. Phyllodes tumor
B. Inflammatory breast carcinoma
C. Invasive lobular carcinoma
D. Fibroadenoma

Answer: **C. Invasive lobular carcinoma**

Small, uniform, **dyscohesive** cells infiltrating in **single file ('Indian file')** = invasive lobular carcinoma.
Cause: loss of E-cadherin (CDH1 gene). Other features: targetoid pattern around ducts, intracytoplasmic mucin (signet-ring cells), often multicentric and bilateral, ER-positive.
Spreads unusually to peritoneum, GI tract, ovaries and meninges. Poorly seen on mammography; MRI defines extent.

17. FMGE 2023

During a routine breast examination, a 51-year-old woman expresses concern about a lump she noticed in her right breast. Upon examination, the lump measures over 5 cm in size, and palpable lymph nodes are found in the ipsilateral axilla. What would be the likely stage for this patient if the lump is determined to be cancerous?

A. cT3N1M0
B. yT4N1M0
C. cT4N1M0
D. yT3N1M0

Answer: **A. cT3N1M0**

Lump >5 cm without skin or chest-wall involvement = **T3**; palpable mobile ipsilateral axillary nodes = **N1**; no metastasis = M0.
The prefix '**c**' = clinical stage before treatment; '**y**' = stage after neoadjuvant therapy; 'p' = pathological; 'r' = recurrence.
Answer: cT3N1M0 (stage IIIA).

18. INI-CET 2023

Which is the most important prognostic factor of breast cancer patients?

A. Lymph node status
B. Pathological staging
C. Tumor Size
D. Status of Hormone receptors

Answer: **A. Lymph node status**

Axillary lymph node status is the single most important prognostic factor in operable breast cancer; risk rises with the number of positive nodes (1-3, 4-9, ≥10).
Tumour size, grade, receptor status and HER2 are important but secondary. Receptor status is mainly **predictive** (of response to endocrine/anti-HER2 therapy).

19. NEET PG 2023

Which of the following is considered a good prognostic factor in a patient with BI-RADS V, breast cancer?

A. P53 +ve
B. BRCA 1
C. Ki67
D. ER +v

Answer: **D. ER +v**

BI-RADS 5 = highly suggestive of malignancy (≥95%) — it describes the image, not the prognosis.
ER positivity is a good prognostic and predictive factor: lower grade tumours that respond to tamoxifen/aromatase inhibitors.
p53 mutation, high Ki-67 and BRCA1 (usually triple-negative, high-grade) are unfavourable.

20. FMGE 2022

Which of the following is NOT a favorable prognostic marker for a middle-aged woman diagnosed with breast carcinoma presenting with a lump in her right breast?

A. Luminal subtype
B. Low Ki67 index
C. Her2 overexpression
D. Mucinous carcinoma

Answer: **C. Her2 overexpression**

Favourable: luminal (ER/PR+) subtype, low Ki-67, special types such as mucinous, tubular, papillary, adenoid cystic.
HER2 overexpression = aggressive, high-grade, unfavourable prognosis (though it predicts response to trastuzumab).
So HER2 overexpression is NOT a favourable marker.

21. NEET PG 2022

A 35 year old female presented to OPD. Physical examination findings are given in image. Which structure is affected in this condition?



A. Involvement of chest wall
B. Involvement of subdermal lymphatics
C. Involvement of Cooper's ligaments
D. Involvement of connective tissue

Answer: **B. Involvement of subdermal lymphatics**

Peau d'orange = **obstruction of subdermal (dermal) lymphatics** by tumour cells → skin oedema, tethered at hair follicles and sweat ducts → pitted orange-peel skin.
Cooper's ligament involvement gives dimpling; chest-wall involvement gives fixity (T4a).
Staging point: peau d'orange alone = T4b; it becomes T4d only with the inflammatory picture (diffuse erythema/oedema ≥1/3 of the breast). (The stored explanation calls it T4d; corrected here.)

22. FMGE 2021

A 35-year-old female presents with a palpable lump in the upper outer quadrant of her breast. Histopathological analysis of the mass shows cells with a signet ring appearance. Given these findings, what is the most likely diagnosis?

A. Colloidal carcinoma
B. Papillary carcinoma
C. Medullary carcinoma
D. Phyllodes tumor

Answer: **A. Colloidal carcinoma**

Mucin-producing tumour cells can show a signet-ring appearance; among the options, the mucin-secreting **colloid (mucinous) carcinoma** is taken as the answer. It typically has abundant extracellular mucin, is soft and well circumscribed, and has a good prognosis.
Papillary: fibrovascular cores; medullary: syncytial sheets + lymphocytes; phyllodes: leaf-like stromal tumour.
Note for Dr Gupta: check answer — intracytoplasmic signet-ring cells are classically a feature of invasive lobular carcinoma (not offered); colloid carcinoma shows mainly extracellular mucin lakes. Stored answer A kept as the best of the given options.

23. FMGE 2021

A 58-year-old woman presents with a breast lump and overlying skin changes. Examination shows diffuse skin oedema with a peau d'orange appearance and small satellite skin nodules confined to the same breast, without fixation to the chest wall, as illustrated.



(A)

Based on these findings, what is the T category of the tumour?

A. T2c
B. T4a
C. T2a
D. T4b

Answer: **D. T4b**

Skin oedema (peau d'orange) and ipsilateral satellite skin nodules without chest-wall fixation = **T4b**.
T4a = chest wall (ribs, intercostals, serratus anterior; not pectoralis alone); T4c = both; T4d = inflammatory carcinoma.
'T2a'/'T2c' are not breast T categories.

24. INI-CET 2021

In the context of a surgical procedure for breast carcinoma, a frozen section technique was utilized. This method provides several advantages, except for which of the following scenarios?

A. Determining the status of the sentinel lymph node
B. To know margin positivity
C. Identifying metastasis
D. To confirm definitive diagnosis immediately in all cases

Answer: **D. To confirm definitive diagnosis immediately in all cases**

Frozen section gives a rapid intra-operative answer: margin status, sentinel node status, and whether a lesion is malignant/metastatic, to decide the extent of surgery.
It does **not** give a definitive diagnosis in all cases: freezing artefact, sampling limits and fatty tissue make paraffin histology the final word.
Diagnosis of a breast lump should be established pre-operatively by core biopsy.

25. INI-CET 2021

Which of the following interpretations of Her2/neu status require the use of Fluorescence In-Situ Hybridization (FISH)?

A. 1+
B. 2+
C. 3+
D. All of the above

Answer: **B. 2+**

HER2 is tested first by IHC: **0 and 1+ = negative**, **2+ = equivocal → reflex ISH/FISH** for gene amplification, **3+ = positive**.
So only 2+ needs FISH. HER2-positive tumours (about 15-20%) get trastuzumab (± pertuzumab).
(HER2-low = IHC 1+ or 2+/ISH-negative; relevant for trastuzumab deruxtecan in metastatic disease.)

26. UPSC CMS 2020

First line hormone therapy for post-menopausal woman with metastatic carcinoma breast is:

A. Tamoxifen
B. Ovarian suppression by surgery
C. Antiprogestins
D. Anastrazole

Answer: **D. Anastrazole**

Post-menopausal women make oestrogen mainly by peripheral aromatisation of adrenal androgens in fat. **Aromatase inhibitors** (anastrozole, letrozole, exemestane) block this and are the first-line endocrine therapy for hormone-receptor-positive metastatic disease (often with a CDK4/6 inhibitor).
Tamoxifen is the alternative/second line. Ovarian ablation is irrelevant after menopause. Antiprogestins are not standard therapy.
AI side effects: arthralgia, bone loss (osteoporosis) — give calcium, vitamin D, bisphosphonate as needed.

27. AIIMS PG 2019

Which one of the following does not classify as locally advanced breast cancer?

A. Tumour more than 4cm
B. Inflammatory breast cancer
C. Chest wall involvement
D. Skin involvement

Answer: **A. Tumour more than 4cm**

Locally advanced breast cancer (LABC) = stage III disease: T3 with nodes, any **T4** (chest wall, skin, inflammatory) or N2/N3, without distant metastasis.
A tumour merely '>4 cm' confined to the breast is T2 (or T3 if >5 cm) and is not by itself locally advanced.
Inflammatory carcinoma (T4d), chest-wall (T4a) and skin (T4b) involvement are all LABC.

28. NEET PG 2019

Which of the following is true about the treatment of early breast carcinoma?

A. Aromatase inhibitors are replacing tamoxifen in premenopausal women
B. Post-mastectomy radiation therapy is given when 4 or more lymph nodes are positive
C. Tamoxifen is not useful in post-menopausal women
D. In premenopausal women, multidrug chemotherapy is given in selected patients

Answer: **B. Post-mastectomy radiation therapy is given when 4 or more lymph nodes are positive**

Post-mastectomy radiotherapy (PMRT) is clearly indicated with **≥4 positive axillary nodes**, T3/T4 tumours (T3N1), and positive margins; it is considered for 1-3 positive nodes.
A wrong: AIs are not used alone in pre-menopausal women. C wrong: tamoxifen works in post-menopausal women too.
Note for Dr Gupta: check answer — option D ('in premenopausal women, multidrug chemotherapy is given in selected patients') is also a true statement; B is the stored and classic answer.

29. AIIMS PG 2018

Peau d'orange of the breast is due to:

A. Obstruction of Vein
B. Obstruction of lymphatic ducts.
C. Obstruction of glandular ducts
D. Obstruction of arteries

Answer: **B. Obstruction of lymphatic ducts.**

Peau d'orange is due to **obstruction of the (subdermal) lymphatics**: dermal oedema with the skin tethered at sweat-duct and hair-follicle openings.
Venous obstruction gives dilated veins; duct obstruction gives galactocele/duct ectasia; arterial obstruction gives ischaemia, none of which look like orange peel.

30. AIIMS PG 2017

A 52-year-old woman with a newly diagnosed early breast carcinoma has no palpable axillary nodes on clinical examination. As part of staging, the surgeon performs an axillary ultrasound to look for occult nodal metastasis before deciding between sentinel node biopsy and upfront axillary clearance. Approximately what sensitivity should the team expect from axillary ultrasound for detecting metastases in this clinically node-negative axilla?

A. 10-20%
B. 20-30%
C. 30-40%
D. 55-60%

Answer: **D. 55-60%**

In a clinically node-negative axilla, axillary ultrasound has only moderate sensitivity (around 55-60% in pooled data) for nodal metastasis; it misses micrometastases.
Suspicious node (cortex >3 mm, lost fatty hilum, round shape) → US-guided FNAC/core biopsy; if positive, proceed to axillary treatment directly.
A normal scan does not exclude disease — **sentinel lymph node biopsy** remains the staging standard for the cN0 axilla.

31. AIIMS PG 2017

A 36 years old patient underwent breast conservation therapy and chemotherapy for a 1.5 × 1.2 cm ER positive breast cancer with one positive axillary lymph node. She is now on tamoxifen. How will you follow-up the patient?

A. Annual bone scan
B. Assessment of tumor markers 6 monthly
C. Routine clinical examination 3 monthly in 1st year with annual mammogram
D. Routine clinical examination 3 monthly and 6 monthly liver function tests

Answer: **C. Routine clinical examination 3 monthly in 1st year with annual mammogram**

Follow-up after breast cancer treatment is **clinical**: history and examination every 3-6 months for the first 3 years, 6-12 monthly up to 5 years, then yearly, plus **annual mammography**.
Routine tumour markers, bone scans, liver function tests or body imaging in asymptomatic women do not improve survival.
Women on tamoxifen with a uterus: annual gynaecological review; report any abnormal vaginal bleeding (endometrial cancer risk).

32. NEET PG 2016

52 years female patient presents with 4 cm diameter diagnosed breast cancer lesion with ipsilateral axillary lymphadenopathy, the involved axillary nodes being fixed/matted to one another. As per AJCC system, patient belongs to which stage of breast cancer?

A. IIa
B. IIb
C. IIIa
D. IIIb

Answer: **C. IIIa**

4 cm tumour = **T2**; ipsilateral axillary nodes fixed/matted = **N2**; no metastasis = M0.
T2 N2 M0 = **stage IIIA** (IIIA = T0-2 N2, or T3 N1-2). IIB = T2N1 or T3N0; IIIB needs T4.

33. UPSC CMS 2016

Nottingham prognostic Index is used for:

A. Cancer stomach
B. Cancer colon
C. Cancer lung
D. Cancer breast

Answer: **D. Cancer breast**

The **Nottingham Prognostic Index** is used for operable breast cancer.
NPI = 0.2 × tumour size (cm) + lymph node stage (1-3) + histological grade (1-3).
Score ≤3.4 good, 3.41-5.4 moderate, >5.4 poor prognosis. Grade is the Nottingham (modified Bloom-Richardson) grade: tubule formation, nuclear pleomorphism, mitoses.

34. AIIMS PG 2015

Oncotype Dx test is done to for the following in breast cancer:

A. Chemotherapy in hormone receptor positive patients
B. Hormone therapy in hormone positive
C. Chemotherapy in hormone receptor negative patients
D. Herceptin in Her-2-neu +ve.

Answer: **A. Chemotherapy in hormone receptor positive patients**

Oncotype DX = 21-gene recurrence score (16 cancer + 5 reference genes) on the tumour block.
Used in **ER-positive, HER2-negative** early cancer (node-negative; also 1-3 nodes in post-menopausal women) to decide whether **chemotherapy** should be added to endocrine therapy.
Low score: endocrine therapy alone; high score: add chemotherapy. MammaPrint is the 70-gene equivalent.

35. AIIMS PG 2015

Peau d'orange in carcinoma breast is due to:

A. Obstruction of sub-dermal lymphatics
B. Infiltration of Cooper's ligament
C. Hematogenous dissemination
D. Fat necrosis of subcutaneous tissue

Answer: **A. Obstruction of sub-dermal lymphatics**

Peau d'orange = **obstruction of sub-dermal lymphatics** by tumour emboli → dermal oedema tethered at the hair follicle/sweat-duct openings.
Cooper's ligament infiltration causes dimpling; haematogenous spread causes distant metastasis; fat necrosis causes a hard lump, sometimes with retraction, after trauma.

36. NEET PG 2015

Which is the most common type of male breast cancer?

A. Infiltrating Ductal Carcinoma
B. Lobular Carcinoma
C. Mucinous Carcinoma
D. Colloid Carcinoma

Answer: **A. Infiltrating Ductal Carcinoma**

Male breast cancer (<1% of all breast cancer) is almost always **infiltrating ductal carcinoma**: the male breast has ducts but no developed lobules, so lobular carcinoma is very rare.
Risk factors: **BRCA2**, Klinefelter syndrome, oestrogen exposure, liver cirrhosis, radiation, obesity. Usually ER-positive (about 90%); presents as a subareolar lump, often with nipple retraction.

37. UPSC CMS 2015

A 35-year-old female is diagnosed with inflammatory carcinoma of the left breast, with two clinically palpable ipsilateral axillary lymph nodes and no clinical or radiological evidence of distant metastasis. What is the most appropriate TNM stage?

A. T4 N2 M0
B. T4b N2 M0
C. T4d N1 M0
D. T4d N2 M0

Answer: **C. T4d N1 M0**

Inflammatory carcinoma is always **T4d**. Two palpable ipsilateral axillary nodes, taken as mobile, = **N1** (N2 needs fixed/matted nodes or internal mammary nodes without axillary nodes). No metastasis = M0.
T4d N1 M0 = stage IIIB. Treatment: neoadjuvant chemotherapy → MRM → radiotherapy.

38. UPSC CMS 2014

Which of the following is the most commonly used adjuvant chemotherapy regimen following modified radical mastectomy in a 35-year-old female with estrogen receptor (ER) negative breast cancer?

A. Cyclophosphamide + 5-Fluorouracil
B. Cyclophosphamide + Methotrexate + 5-Fluorouracil (CMF)
C. Cyclophosphamide + Adriamycin (Doxorubicin) + 5-Fluorouracil (CAF)
D. Adriamycin (Doxorubicin) + 5-Fluorouracil

Answer: **C. Cyclophosphamide + Adriamycin (Doxorubicin) + 5-Fluorouracil (CAF)**

A young woman with **ER-negative** cancer gains nothing from endocrine therapy and needs effective cytotoxic chemotherapy.
Classic answer: anthracycline-based **CAF/FAC** (cyclophosphamide, adriamycin, 5-FU). CMF is the older, less effective non-anthracycline regimen.
Current standard: anthracycline + taxane (AC followed by paclitaxel/docetaxel); add trastuzumab (± pertuzumab) if HER2-positive.

39. NEET PG 2013

Which of the following stage of Breast Ca corresponds with following feature? Breast mass of 6 × 3 cm. size Ipsilateral supraclavicular lymph node Distant metastasis cannot be assessed

A. T4 N3 MX
B. T4 N1 M1
C. T4 N0 M0
D. T3 N3c MX

Answer: **D. T3 N3c MX**

6 cm = >5 cm = **T3** (size alone never makes T4). Ipsilateral **supraclavicular** node = **N3c**. Distant metastasis not assessed = **Mx**.
N3a = infraclavicular (level III) nodes; N3b = internal mammary + axillary nodes; N3c = supraclavicular nodes.
Answer: T3 N3c Mx (stage IIIC if M0).

40. AIIMS PG 2012

In a patient with carcinoma breast staged T4b, which of the following is NOT a feature?

A. Nipple retraction
B. Skin ulcer over the swelling
C. Dermal edema
D. Satellite nodules

Answer: **A. Nipple retraction**

T4b features: skin **ulceration**, ipsilateral **satellite skin nodules**, and skin **oedema/peau d'orange**.
Nipple retraction (and skin dimpling, and dermal invasion alone) do not define T4b; they can occur with small tumours.

41. NEET PG 2012

What is true about HER2/neu overexpression in Ca breast:

A. Good prognosis
B. Responds well to taxanes
C. Responds well to monoclonal antibodies
D. Seen only in breast cancer

Answer: **C. Responds well to monoclonal antibodies**

HER2/neu (ERBB2) overexpression (15-20% of breast cancers) = aggressive tumour, **poor prognosis** without targeted therapy.
It responds well to anti-HER2 **monoclonal antibodies**: trastuzumab, pertuzumab, and the antibody-drug conjugates T-DM1 and trastuzumab deruxtecan; lapatinib/tucatinib are tyrosine kinase inhibitors.
HER2 is also amplified in gastric/gastro-oesophageal cancers, so 'only breast' is wrong. Trastuzumab's key toxicity: cardiomyopathy (monitor LVEF).

42. UPSC CMS 2012

Which of the following breast cancers is most often bilateral?

A. Medullary carcinoma of the breast
B. Lobular carcinoma of the breast
C. Colloid carcinoma of the breast
D. Ductal carcinoma of the breast

Answer: **B. Lobular carcinoma of the breast**

Lobular carcinoma (lobular neoplasia/LCIS and invasive lobular) is the type most often bilateral and multicentric, a field change of the breast linked to loss of E-cadherin.
LCIS is a marker of increased risk in **both** breasts. Medullary, colloid and ductal carcinomas are usually unilateral and unifocal.

43. UPSC CMS 2012

The inflammatory breast carcinoma is staged as:

A. T4a
B. T4b
C. T4c
D. T4d

Answer: **D. T4d**

Inflammatory carcinoma = T4d: rapid onset (<6 months) diffuse erythema and oedema (peau d'orange) involving ≥1/3 of the breast, often without a discrete lump; dermal lymphatic tumour emboli on skin biopsy.
T4a chest wall, T4b skin (ulcer, satellite nodules, oedema), T4c both.

44. AIIMS PG 2011

BRCA 1 gene is located on?

A. Chromosome 13
B. Chromosome 11
C. Chromosome 17
D. Chromosome 22

Answer: **C. Chromosome 17**

BRCA1 is on **chromosome 17q21**; **BRCA2** on **13q12-13**. Both are tumour-suppressor genes for DNA repair by homologous recombination; inherited autosomal dominant.
BRCA1: lifetime breast cancer risk ~55-70% (up to 85% quoted), ovarian ~40%; tumours usually triple-negative, medullary pattern. BRCA2: breast ~45-70%, ovarian ~15-20%; **male breast cancer**, prostate and pancreatic cancer.
BRCA-mutated cancers respond to PARP inhibitors (olaparib).

6. Recording Kit — Breast Carcinoma

a. HYT Concept Video

Title: Breast Carcinoma in 4 Minutes | Asked 44 Times | Dr Abhishek Gupta's HYT **Thumbnail badge:** Asked 44 times

Hook (0:00-0:15): *"Breast Carcinoma. Asked 44 times in 16 years. In four minutes, everything the examiners want."*

PYQ map slide (0:15-0:45):

Exam	Times	Years
NEET PG	10	2012, 2013, 2015, 2016, 2019, 2022, 2023, 2024, 2025, 2026
INI-CET	7	2021, 2023, 2024, 2025
AIIMS PG	8	2011, 2012, 2015, 2017, 2018, 2019
FMGE	10	2021, 2022, 2023, 2024, 2025, 2026
UPSC CMS	9	2012, 2014, 2015, 2016, 2020, 2025, 2026

Angles: TNM staging 14 · markers and prognosis 7 · management 7 · histological types 5 · skin signs 4 · diagnosis 4 · epidemiology/genetics 3.

Block 1 — Core idea (0:45-1:45):

- Commonest cancer in women; upper outer quadrant; BRCA1 (17) / BRCA2 (13, male).
- Triple assessment → core needle biopsy → ER, PR, HER2, Ki-67.
- Biology decides treatment: HR+ endocrine (tamoxifen pre-, AI post-menopause), HER2+ trastuzumab, TNBC chemo.
- Stage decides sequence: early → surgery first; locally advanced and inflammatory → chemo first; metastatic → systemic therapy.

Block 2 — What examiners ask (1:45-2:45):

- T categories with skin and chest wall: T4a/b/c/d (most asked).
- Mechanism of peau d'orange (lymphatics) vs dimpling (Cooper's ligaments).
- Most important prognostic factor (nodes), good/bad markers (ER good, HER2 bad), HER2 2+ → FISH, NPI, Oncotype DX.
- Histology images: single-file lobular, mucin-lake colloid.
- PMRT with ≥4 nodes; inflammatory → NACT, MRM, RT.

Block 3 — The common trap (2:45-3:30):

- "Fixed to pectoralis major" sounds like chest wall — it is not. Stage by size.
- Dimpling and nipple retraction are not T4b. Peau d'orange alone is T4b, not T4d.
- Mobile nodes N1, matted N2, supraclavicular N3c.

Rapid recall (3:30-4:10) — ask, pause two seconds, answer:

1. Peau d'orange is due to? — Obstruction of subdermal lymphatics.
2. 6 cm tumour fixed only to pectoralis major: T? — T3.
3. Inflammatory carcinoma: T? — T4d.
4. Single most important prognostic factor? — Axillary lymph node status.
5. HER2 IHC 2+: next test? — FISH.

App drive (4:10-4:20): *"These five questions and the full card set on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta. This is Dr Abhishek Gupta's HYT."*

b. Four PYQ MCQ Videos

PYQ MCQ Video 1: FMGE 2026

Title: Breast Carcinoma | FMGE 2026 PYQ | Dr Abhishek Gupta's HYT

Hook (0:00-0:10): *"This was asked in FMGE, 2026. Pause and try it."*

Question slide FMGE 2026 : A 40-year-old woman presents with a palpable mass in her left breast. Mammography is performed, and a biopsy is recommended. Which of the following is the preferred method for tissue diagnosis?

A. Core needle biopsy
B. Fine-needle aspiration cytology
C. Incisional biopsy
D. Excisional biopsy

Teaching notes (0:40-3:00):

- Every breast lump gets **triple assessment**: clinical + imaging + tissue.
- Imaging: ultrasound under 35 (dense breasts); mammogram + ultrasound from 35-40.
- Tissue of choice: **image-guided core needle biopsy** (14-16 G) — histology: invasive vs in situ, type, grade.
- Why it matters: ER, PR, HER2, Ki-67 from the core decide neoadjuvant therapy before any surgery.
- Microcalcifications without a mass: stereotactic / vacuum-assisted biopsy.

Why each wrong option is wrong (3:00-3:40):

- **B. FNAC**: cytology only; cannot show invasion; receptor status unreliable; used for axillary nodes.
- **C. Incisional biopsy**: open procedure; only for non-diagnostic core or fungating tumour.
- **D. Excisional biopsy**: removes the lump without a plan; spoils margins if cancer; reserved for discordant results.

Correct answer: A. Core needle biopsy

How else can the examiner ask this? (3:40-4:10)

- "Investigation of choice for a breast lump in a 25-year-old?" → ultrasound (then core biopsy if needed).
- "Clustered microcalcifications without a lump — how to biopsy?" → stereotactic vacuum-assisted biopsy.
- "Which test cannot distinguish DCIS from invasive cancer?" → FNAC.

App drive (4:10-4:20): *"The ten-question quiz and revision cards on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta. This is Dr Abhishek Gupta's HYT."*

PYQ MCQ Video 2: UPSC CMS 2026

Title: Breast Carcinoma | UPSC CMS 2026 PYQ | Dr Abhishek Gupta's HYT

Hook (0:00-0:10): *"This was asked in UPSC CMS, 2026. Pause and try it."*

Question slide UPSC CMS 2026 : A 45-year-old lady presents with a hard lump in the left breast. On examination, the lump is found to be 4 cm × 6 cm in size, not fixed to the skin, but fixed to the underlying pectoralis major muscle. The T stage of this is

A. cT4a
B. cT3
C. cT4b
D. cT2

Teaching notes (0:40-3:00):

- T by size: T1 ≤2, T2 >2-5, T3 >5 cm. Measure the **greatest dimension** (here 6 cm).
- T4 = any size + chest wall (T4a), skin (T4b), both (T4c), inflammatory (T4d).
- AJCC chest wall = **ribs, intercostal muscles, serratus anterior**. **Pectoralis major is not chest wall.**
- Clinical test: fixity to pectoralis (contract the muscle, hands on hips) vs fixity to chest wall (fixed even with the muscle relaxed).
- Being T3, it still needs a metastatic work-up (CECT/bone scan or PET-CT) as LABC if nodes are positive.

Why each wrong option is wrong (3:00-3:40):

- **A. cT4a**: needs ribs/intercostals/serratus; pectoralis alone does not count.
- **C. cT4b**: needs skin ulceration, satellite nodules or oedema; skin is free here.
- **D. cT2**: T2 stops at 5 cm; this is 6 cm.

Correct answer: B. cT3

How else can the examiner ask this? (3:40-4:10)

- "7 cm tumour invading pectoralis with matted axillary nodes" → T3 N2 (INI-CET pattern).
- "Which structure is NOT part of the chest wall for T4a?" → pectoralis major.
- "4 cm lump fixed to serratus anterior" → T4a.

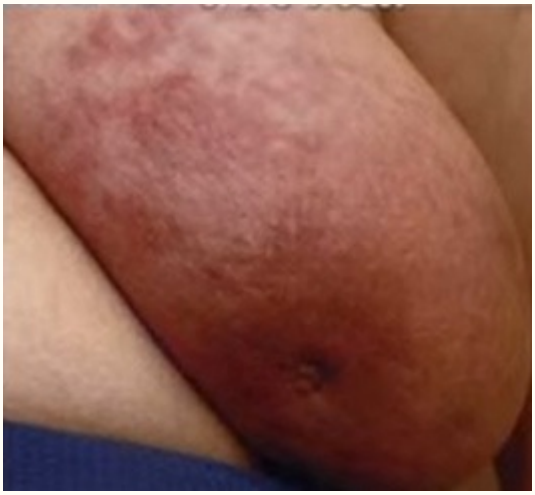
App drive (4:10-4:20): *"The ten-question quiz and revision cards on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta. This is Dr Abhishek Gupta's HYT."*

PYQ MCQ Video 3: INI-CET 2025

Title: Breast Carcinoma | INI-CET 2025 PYQ | Dr Abhishek Gupta's HYT

Hook (0:00-0:10): *"This was asked in INI-CET, 2025. Pause and try it."*

Question slide INI-CET 2025 : A woman presented with the following findings in left breast for 3 months and pain for 2 months. What is the management plan for the following?



A. Simple mastectomy followed by management of complication
B. Neoadjuvant chemotherapy followed by radical mastectomy
C. Radical mastectomy with Axillary Lymph node dissection
D. Neoadjuvant chemotherapy followed by MRM and RT

Teaching notes (0:40-3:00):

- Picture: diffuse redness and swelling of the breast of short history, often without a lump = **inflammatory breast cancer**.
- Mechanism: tumour emboli in **dermal lymphatics**. Criteria: rapid onset (<6 months), erythema/oedema ≥1/3 of the breast.
- Stage: **T4d** = locally advanced by definition (at least IIIB).
- Work-up: core biopsy + skin punch biopsy, receptors, metastatic work-up (CT/bone scan or PET-CT).
- Treatment: **neoadjuvant chemotherapy** (+ trastuzumab/pertuzumab if HER2+) → **MRM with axillary dissection** → **chest-wall RT** → endocrine therapy if HR+.
- Never BCS, never SLNB, never upfront surgery.

Why each wrong option is wrong (3:00-3:40):

- **A. Simple mastectomy first**: upfront surgery gives positive margins and early recurrence; no axillary treatment.
- **B. NACT then radical mastectomy**: Halsted radical mastectomy is not needed; and RT is missing.
- **C. Radical mastectomy with ALND**: surgery first is wrong; no systemic therapy.

Correct answer: D. Neoadjuvant chemotherapy followed by MRM and RT

How else can the examiner ask this? (3:40-4:10)

- "Inflammatory carcinoma is staged as?" → T4d (UPSC CMS pattern).
- "Breast 'abscess' not responding to antibiotics in a 40-year-old — next step?" → biopsy (rule out inflammatory cancer).
- "Which surgery is contraindicated in inflammatory cancer?" → breast-conserving surgery (and SLNB).

App drive (4:10-4:20): *"The ten-question quiz and revision cards on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta. This is Dr Abhishek Gupta's HYT."*

PYQ MCQ Video 4: NEET PG 2025

Title: Breast Carcinoma | NEET PG 2025 PYQ | Dr Abhishek Gupta's HYT

Hook (0:00-0:10): *"This was asked in NEET PG, 2025. Pause and try it."*

Question slide NEET PG 2025 : A 43-year-old female presents to the OPD with changes in the breast and a palpable lump. On examination, there is skin thickening and the appearance of peau d'orange over the breast. What is the likely diagnosis? 

A. T3
B. T4b
C. T4c
D. T4d

Teaching notes (0:40-3:00):

- Peau d'orange = orange-peel skin: **subdermal lymphatics blocked** by tumour emboli → skin oedema.
- The skin cannot swell at hair follicles and sweat-duct openings, which stay tethered → pits.
- Staging: skin oedema/peau d'orange, ulceration, satellite nodules = **T4b**, whatever the size.
- Not T4b: dimpling (Cooper's ligaments) and nipple retraction.
- T4d only if the full inflammatory picture: diffuse erythema/oedema of ≥1/3 of the breast.

Why each wrong option is wrong (3:00-3:40):

- **A. T3**: T3 is size >5 cm with no skin/chest-wall involvement; skin oedema upstages to T4.
- **C. T4c**: needs chest-wall involvement as well as skin.
- **D. T4d**: needs inflammatory carcinoma; here there is a lump with localised peau d'orange.

Correct answer: B. T4b

How else can the examiner ask this? (3:40-4:10)

- "Peau d'orange is due to?" → obstruction of subdermal lymphatics (asked 3 times).
- "Which is NOT a T4b feature?" → nipple retraction (AIIMS pattern) or inflammatory change (INI-CET pattern).
- "Skin dimpling is due to?" → Cooper's ligament infiltration.

App drive (4:10-4:20): *"The ten-question quiz and revision cards on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta. This is Dr Abhishek Gupta's HYT."*

c. Reels

c1. Reel — Important Concept

Hook (0-2 s): *"A breast tumour stuck to the muscle — and it is still not T4. Why?"*

Body: *"Beat one: T stage starts with size. Up to 2 centimetres T1, up to 5 T2, above 5 T3. Beat two: T4 means the tumour has reached the chest wall or the skin, at any size. And in breast staging, chest wall means ribs, intercostal muscles and serratus anterior. Not pectoralis major. Beat three: so a 6 centimetre lump fixed only to pectoralis major is T3. This exact trap was asked in UPSC CMS 2026 and INI-CET 2024. If you remember one thing, remember this: pectoralis is not the chest wall."*

Close: *"The ten-question quiz on Breast Carcinoma is on HYT Revision. Free. By Dr Abhishek Gupta."* End card: Revise this free on HYT Revision, by Dr Abhishek Gupta.

c2. Reel — Exam Analysis

Hook (0-2 s): *"Breast Carcinoma appeared 44 times in 16 years."*

Body (exams and years on screen): *"NEET PG 10 times, FMGE 10, UPSC CMS 9, AIIMS PG 8, INI-CET 7. Every year from 2011 to 2026. One in three questions was staging — T4b versus T4d, and pectoralis versus chest wall. Then markers: nodal status, ER, HER2 and FISH. Then management: tamoxifen or anastrozole, and chemotherapy first in inflammatory cancer. Peau d'orange alone came five times. Expect the next one to be a picture — a skin sign or a histology slide — with a staging or mechanism question."*

Fixed close: *"I didn't choose this topic. The examiners did."* Then: *"All 44 questions on Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta."*

c3. Reel — 5 Most Important Points

Hook (0-2 s): *"Five things examiners keep asking about breast cancer."*

1. Peau d'orange = blocked subdermal lymphatics → T4b.
2. Pectoralis major fixation is not chest wall — stage by size.
3. Inflammatory cancer = T4d → chemo, then MRM, then RT.
4. Most important prognostic factor = axillary nodes; HER2 2+ needs FISH.
5. Tamoxifen before menopause, anastrozole after.

Final screen: all five held for a screenshot. **Close:** *"The revision cards for Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta."*

c4. Reel — Mnemonic / Memory Tip

Hook (0-2 s): *"T4a, b, c, d in breast cancer — everyone mixes them up."*

On screen — original hook "Wall, Skin, Both, Burning":

- **a = Wall** — chest wall (ribs, intercostals, serratus; not pectoralis).
- **b = Skin** — ulcer, satellite nodules, peau d'orange.
- **c = Both** — wall + skin.
- **d = Burning** — the red, hot, swollen breast of inflammatory carcinoma.

Walk-through: *"a, b, c, d: Wall, Skin, Both, Burning. The tumour climbs outwards — first the wall behind it, then the skin in front, then both, and the burning breast is its own letter. Now look away and say it."*

Close: *"Test it with ten questions on Breast Carcinoma on HYT Revision. Free. By Dr Abhishek Gupta."*

c5. Reel — My POV (prompt idea, Hinglish)

Hook (0-2 s): *"Staging table ko ratne se marks nahi aate — ek trap samajhne se aate hain."*

Idea: One honest point: the whole TNM table looks huge, but 44 PYQs keep returning to four traps (pectoralis, dimpling, peau d'orange, mobile vs matted nodes). Learn the traps first, the table second. Attack the "memorise everything" suffering, not the student. Hinglish, his face only, no slides.

Close: *"Breast Carcinoma ke saare 44 questions HYT Revision par hain. Free. By Dr Abhishek Gupta."* + standard end card.

d. HYT Quiz

d. HYT Quiz — Breast Carcinoma (10 questions, one continuous flow)

Q1. NEET PG 2026 A patient presents with a breast lump. Mammography shows a suspicious lesion with clustered calcifications. What is the most likely diagnosis?

A. Fibroadenoma B. Breast carcinoma C. Breast cyst D. Lipoma

Answer: **B. Breast carcinoma** — Clustered fine microcalcifications in a suspicious lesion are the mammographic signature of carcinoma (often DCIS).

Q2. FMGE 2024 The drug used in a 55-year-old pre-menopausal patient with ER+, PR+ on IHC along with lymph node positive and diagnosed with early invasive breast cancer?

A. Tamoxifen B. Anastrozole C. Trastuzumab D. All of the above

Answer: **A. Tamoxifen** — Pre-menopausal ER/PR+ disease: tamoxifen; aromatase inhibitors need post-menopausal (or suppressed) ovaries.

Q3. INI-CET 2021 Which of the following interpretations of Her2/neu status require the use of Fluorescence In-Situ Hybridization (FISH)?

A. 1+ B. 2+ C. 3+ D. All of the above

Answer: **B. 2+** — IHC 2+ is equivocal and is resolved by FISH for HER2 gene amplification.

Q4. INI-CET 2023 Which is the most important prognostic factor of breast cancer patients?

A. Lymph node status B. Pathological staging C. Tumor Size D. Status of Hormone receptors

Answer: **A. Lymph node status** — Axillary nodal status is the single strongest predictor of recurrence and survival.

Q5. AIIMS PG 2011 BRCA 1 gene is located on?

A. Chromosome 13 B. Chromosome 11 C. Chromosome 17 D. Chromosome 22

Answer: **C. Chromosome 17** — BRCA1 is at 17q21; BRCA2 at 13q12-13.

Q6. New Which quadrant of the breast is the most common site of carcinoma?

A. Upper inner B. Upper outer C. Lower inner D. Lower outer

Answer: **B. Upper outer** — The upper outer quadrant (with the axillary tail) contains the most breast tissue.

Q7. New After axillary dissection, a patient has winging of the scapula. Which nerve was injured?

A. Thoracodorsal nerve B. Intercostobrachial nerve C. Long thoracic nerve D. Medial pectoral nerve

Answer: **C. Long thoracic nerve** — The long thoracic nerve supplies serratus anterior; its injury causes winging.

Q8. New A 48-year-old has an eczematous erosion that began on the nipple and spread to the areola of one breast. What is the likely underlying lesion?

A. Atopic eczema B. Duct ectasia C. Ductal carcinoma in situ / carcinoma D. Intraductal papilloma

Answer: **C. Ductal carcinoma in situ / carcinoma** — Paget's disease of the nipple starts at the nipple and almost always has an underlying DCIS or invasive carcinoma.

Q9. New Which gene mutation is most strongly associated with male breast cancer?

A. BRCA1 B. BRCA2 C. TP53 D. PTEN

Answer: **B. BRCA2** — BRCA2 carries the highest male breast cancer risk.

Q10. New Which is an absolute contraindication to breast-conserving surgery?

A. Tumour 2.5 cm in a large breast B. Previous radiotherapy to the same breast C. Lobular histology D. Age above 70 years

Answer: **B. Previous radiotherapy to the same breast** — Whole-breast RT is part of BCS and cannot be repeated after previous breast/chest radiotherapy.

Summary Note — Breast Carcinoma

Commonest female cancer; upper outer quadrant; BRCA1 = chr 17, BRCA2 = chr 13 (male)
Triple assessment; tissue by core needle biopsy; ER, PR, HER2 (2+ → FISH), Ki-67
T1 ≤2, T2 >2-5, T3 >5 cm; pectoralis fixation is not chest wall
T4a chest wall, T4b skin (ulcer, satellite nodules, peau d'orange), T4c both, T4d inflammatory
Peau d'orange = subdermal lymphatics; dimpling = Cooper's ligaments
N1 mobile, N2 matted, N3c supraclavicular
Most important prognostic factor: axillary nodes; ER+ good, HER2+ bad; NPI for breast
Tamoxifen pre-menopause, aromatase inhibitor post-menopause; trastuzumab for HER2+
Inflammatory/LABC: NACT → MRM → RT; stage IV: systemic therapy first
PMRT for ≥4 nodes; lobular = single file, bilateral

Dr Abhishek Gupta's HYT

Result screen links: the four PYQ MCQ videos + *"The revision cards for Breast Carcinoma are on HYT Revision. Free. By Dr Abhishek Gupta."*

e. MCQ Polls

e. MCQ Polls (one per PYQ MCQ video; post only after its video is live)

FMGE **2026** **Dr Abhishek Gupta's HYT**

A 40-year-old woman presents with a palpable mass in her left breast. Mammography is performed, and a biopsy is recommended. Which of the following is the preferred method for tissue diagnosis?

A. Core needle biopsy
B. Fine-needle aspiration cytology
C. Incisional biopsy
D. Excisional biopsy

Answer: **A. Core needle biopsy** — Core biopsy gives histology and receptor status; FNAC gives cytology only.

Then: link to the explanation video + "Ten more questions on Breast Carcinoma are on HYT Revision. Free."

UPSC CMS **2026** **Dr Abhishek Gupta's HYT**

A 45-year-old lady presents with a hard lump in the left breast. On examination, the lump is found to be 4 cm × 6 cm in size, not fixed to the skin, but fixed to the underlying pectoralis major muscle. The T stage of this is

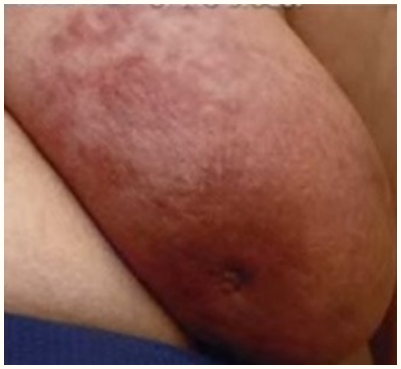
A. cT4a
B. cT3
C. cT4b
D. cT2

Answer: **B. cT3** — 6 cm = T3; pectoralis major is not chest wall, so not T4a.

Then: link to the explanation video + "Ten more questions on Breast Carcinoma are on HYT Revision. Free."

INI-CET 2025 **Dr Abhishek Gupta's HYT**

A woman presented with the following findings in left breast for 3 months and pain for 2 months. What is the management plan for the following?



A. Simple mastectomy followed by management of complication
B. Neoadjuvant chemotherapy followed by radical mastectomy
C. Radical mastectomy with Axillary Lymph node dissection
D. Neoadjuvant chemotherapy followed by MRM and RT

Answer: **D. Neoadjuvant chemotherapy followed by MRM and RT** — Inflammatory cancer (T4d): neoadjuvant chemotherapy, then MRM, then radiotherapy.

Then: link to the explanation video + "Ten more questions on Breast Carcinoma are on HYT Revision. Free."

NEET PG 2025 **Dr Abhishek Gupta's HYT**

A 43-year-old female presents to the OPD with changes in the breast and a palpable lump. On examination, there is skin thickening and the appearance of peau d'orange over the breast. What is the likely diagnosis?



A. T3
B. T4b
C. T4c
D. T4d

Answer: **B. T4b** — Peau d'orange (skin oedema) = T4b; T4d needs the inflammatory picture.

Then: link to the explanation video + "Ten more questions on Breast Carcinoma are on HYT Revision. Free."

Every piece ends with: Revise this free on HYT Revision, by Dr Abhishek Gupta. Counts in this package are the real PYQ counts from the question bank (44 PYQs, 16 years).