PATHOLOGY

S. No.	Topics
Cytopathology	
1.	Role of p16 (tumor suppressor protein that inhibits cyclin-dependent kinase 4A) and ki67 (City of Kiel antibody) in liquid based cytology of cervical smears in diagnosing intraepithelial lesions.
2.	Spectrum of liver lesions on Fine Needle Aspiration Cytology (FNAC): Clinical and cytological study with inclusion of cell blocks.
3.	Histologic correlation of Bethesda category III of thyroid cytology.
4.	Morphologic analysis of granulomatous lesions in clinically proven cases of tuberculosis and sarcoidosis.
5.	Evaluation of Auramine-Rhodamine Versus Fite stain in paucibacillary leprosy.
6.	Categorisation of lymph node aspirates using Sydney system for reporting lymph node cytopathology in tuberculosis with assessment of diagnostic accuracy.
7.	Categorisation of lymph node aspirates using Sydney system for reporting lymph node cytopathology with assessment of risk of malignancy and diagnostic accuracy.
8.	Molecular classification of lung carcinomas based on simplified algorithm using cytology material and correlation with molecular classification on tissue biopsies and clinical outcome.
9.	Assessment of Decoy cells in Papanicolaou stained cytocentrifuged urine sample for assessment of BK polyoma virus infection in post-transplant patients with worsening renal function.
Histopathology	
10.	Correlation of histological staging and grading with WHO subtyping in various India specific cancers.

11.	Association of smoking with type of lung cancer: A clinicopathologic study.
12.	Paraffin immuno-fluorescence as a salvage technique in renal pathology.
13.	Phospholipase 2 Receptor - PLA2R tissue staining and Serum Enzyme Linked Immunoassay (ELISA) comparison in Membranous Nephropathy.
14.	Morphological study of glomerulopathies.
15.	Analysis of epigenetic changes in menigiomas -correlation with recurrence.
16.	Analysis of mutations in cell free- DNA in various brain tumours to look for diagnostic and prognostic markers.
17.	Improvising on an algorithmic approach to diagnosis of brain tumours modifying guidelines in the WHO classification in a cost-effective and universally applicable method in the Indian context.
18.	Clinico-pathologic features and prognostic factors in hypopigmented Mycosis fungoides and distinction from inflammatory mimics.
19.	Evaluation of Magee equations as a cost-effective alternative to molecular testing in hormone receptor positive, Human Epidermal Growth Factor Receptor-2 negative breast cancer.
20.	Histopathologic features and biomarkers in chemoresistant ovarian cancers.
21.	Ki-67 proliferative index in breast carcinoma: developing, standardizing and validating an Artificial Intelligence based tool and comparison with manual counting.
22.	Can life style factors, histopathological examination or molecular markers analyses predict cervical lymph node metastases in papillary thyroid carcinoma?
23.	Can risk factor analyses predict cervical lymph node metastases in papillary thyroid carcinoma?

24.	What is the relevance of tumour infiltrating lymphocytes, tumour associated macrophages and neutrophil-lymphocyte ratio in carcinoma? (any carcinoma).
25.	Molecular characterization of central nervous system tumours and its subtypes as per recent WHO classification scheme.
26.	Histo-molecular analysis in neurodevelopmental fetal disorders.
27.	Validation of molecular markers on immunohistochemistry platform used in targeted therapy with emphasis on Programmed death ligand-1 (PDL1) e.g. **v-raf murine sarcoma viral oncogene homolog B1**-BRAF, anaplastic lymphoma tyrosine kinase gene (ALK1), Epidermal growth factor receptor (EGFR).
28.	Association of tumour budding with other Histomorphological prognostic variables in Oral Squamous cell carcinoma.
29.	Comparison of Prognos Tumour infiltrating lymphocytes score and Nottingham Prognostic Index as prognostic tools in Triple negative Breast cancer.
30.	Clinicopathologic predictors of patterns of residual disease following neoadjuvant chemotherapy for Breast cancer.
31.	How does Artificial Intelligence and Digital Pathology add value to Risk Stratification of Lung Cancer.
32.	Tissue and Digital Platform Artificial Intelligence enabled Biomarker and Proteogenomic study of Indian Cervical Cancer Patients.
33.	Association of polypoidal and dysplastic lesions of a location (region specific) with invasive carcinoma and their prognostic implications.
34.	Association of polypoidal and flat dysplastic lesions of gall bladder with chronic cholecystitis, and their prognostic implications.
35.	Association of polypoidal and flat dysplastic lesions of gall bladder with invasive gall bladder carcinomas, and their prognostic implications.

36.	Assessment of histological changes in follow up small bowel biopsies in patients with celiac disease on gluten free diet in different point of time to determine course of histological mucosal healing.
37.	Assessment of Phospholipase 2 receptor (PLA2 receptor) by indirect immune-fluorescence technique for diagnosis, prognostication and treatment monitoring in adult patients diagnosed with membranous nephropathy.
38.	Study of placental pathology with various maternal and intra-uterine growth retardation factors.
39.	Prevalence studies of geographic specific cancers e.g. gall bladder cancer in north India or oesophageal cancer in north-east India, etc.
Hematopathology	
40.	Utility of newer Immunohistochemistry markers (LIM-Only Transcription Factor 2- LMO2, (SRY (Sex Determining Region Y)-Box 11- SOX11, Lymphoid enhancer binding factor 1- LEF1) in characterization of small B cell lymphoma.
41.	Clinical utility of Newly described Amador Immunohistochemistry algorithm in Peripheral T cell Lymphoma-Not Otherwise Specified prognostication.
42.	Clinico-pathological profile of Double expressor Lymphoma.
43.	High Performance Liquid Chromatography study in pediatric patients with hemoglobinopathies.
44.	Molecular markers of various cutaneous lymphoproliferative lesions.
45.	Spectrum of various cutaneous lymphoproliferative lesions.
46.	What is the role of platelet indices in the prediction of post-partum haemorrhage?
47.	What is the role of haematological indices in hepatitis B related disease?
48.	Cyto-Genomic profiling of tyrosine kinase resistant chronic Myeloid Leukaemia.

49.	Performance of Disseminated Intravascular Coagulation scoring.
50.	Systems in predicting mortality amongst patients with septic shock.
51.	Genomic Landscape of Low-Grade Myelodysplastic Neoplasms in India.
52.	Incidence of Clonal Haematopoesis of Indeterminate Potential in India.
53.	Anemia and Transfusion Decisions in the Intensive Care Unit.
54.	Comparative evaluation of two-cell panel with the standard three-cell panel in detection of unexpected red cell antibodies.
55.	Prevalence of Platelet crossmatch positivity among paediatric oncology patients in a tertiary care centre in south India.
Molecular Pathology	
56.	Research on simpler more cost-effective methods for mandatory genetic analysis of brain tumours for diagnosis as per the WHO criteria.
57.	Application of Artificial Intelligence network analysis, deep learning algorithms, computational models in histopathology, integrating neuroimaging, and molecular genetics for prognosticating/grading brain tumours.
58.	Development and validation of comprehensive head and neck tumor-specific Next Genome sequencing panel to facilitate diagnosis and identify therapeutic targets in Indian population.
59.	Determination of Human Papilloma Virus-associated nasopharyngeal carcinoma by P16 immuno-histochemical staining, in-situ hybridization and polymerase chain reactions for HPV-16 and HPV-18, and correlation with clinical outcome.
Miscellaneous	
60.	Autopsy study in sudden cardiac death.
61.	Study of extra-pulmonary tuberculosis.

62.	Prevalence of IgG subclasses (IgG1/IgG3) in antenatal alloimmunized women.
63.	Fetal autopsies: Study development of various organs (brain/kidney/lung/heart/brain), correlate with maternal factors (nutritional/demographics).
64.	Clinico-pathological correlative studies with blood groups in different tumours.
65.	Clinico-pathological correlative studies of various neoplasms with hematological tests.
66.	Clinico-pathological correlative studies in various conditions with education, SES, life style, occupation.
67.	Study of Diagnostic errors and evaluate their causes.
68.	Study of Artefacts in pathology.
69.	Study of Effect of pre-test parameters on diagnosis.
70.	Study of the Use of Immunohistochemistry.
71.	Develop simple Quality Control protocols applicable to routine pathology lab.
72.	Evaluation of different fixatives (formalin free).
73.	Role of artificial intelligence based system in peripheral blood smear & urine examination.