

PROVISIONAL ANSWER KEY

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Question1:-

Acanthosis nigricans as a paraneoplastic syndrome is most commonly associated with

A:-Gastric adenocarcinoma

B:-Renal cell carcinoma

C:-Melanoma

D:-Retinoblastoma

Correct Answer:- Option-A

Question2:-

Which of the following malignancy is most strongly associated with Epstein- Barr virus in immunosuppressed patients?

A:-Pancreatic carcinoma

B:-Post-transplant lymphoproliferative disorder

C:-Kaposi sarcoma

D:-Adult T-cell leukemia

Correct Answer:- Option-B

Question3:-Li-Fraumeni syndrome is caused by germline mutations in which gene ?

A:-RB1

B:-TP53

C:-PTEN

D:-MLH1

Correct Answer:- Option-B

Question4:-Cowden syndrome is associated with mutations in

A:-MSH 2

B:-PTEN

C:-BRCA1

D:-APC

Correct Answer:- Option-B

Question5:-Which oral lesion carries the highest malignant transformation rate ?

A:-Homogeneous leukoplakia

B:-Frictional keratosis

C:-Erythroplakia

D:-Aphthous ulcer

Correct Answer:- Option-C

Question6:-Which colonic lesion has the greatest malignant potential ?

A:-Hyperplastic polyp

B:-Juvenile polyp

C:-Villous adenoma

D:-Tubular adenoma

Correct Answer:- Option-C

Question7:-

Which tumour marker screening is important in a patient with MEN 2 syndrome ?

A:-AFP

B:-PSA

C:-CEA

D:-Calcitonin

Correct Answer:- Option-D

Question8:-Adult T-cell leukemia/lymphoma is caused by

A:-HTLV-1

B:-EBV

C:-HIV

D:-HHV-8

Correct Answer:- Option-A

Question9:-Which High-risk HPV types are most commonly associated with cervical carcinoma ?

A:-6 and 11

B:-16 and 18

C:-7 and 13

D:-31 and 33

Correct Answer:- Option-B

Question10:-Peutz-Jeghers syndrome is characterized by

A:-Medullary thyroid carcinoma and parathyroid adenoma

B:-Mucocutaneous pigmentation and hamartomatous polyps

C:-Café-au-lait spots and neurofibromas

D:-Multiple osteomas and epidermoid cysts

Correct Answer:- Option-B

Question11:-

Identify the types of Bio repositories

A:-Institutional & gov. supported repositories

B:-Commercial bio repositories

C:-Population based bio banks

D:-All of above

Correct Answer:- Option-D

Question12:-What is the role of secondary antibody in IHC staining ?

A:-It binds directly to the target antigen in the tissue

B:-It destroys excess primary antibodies

C:-It binds to the primary antibody and amplifies the detection signal

D:-It acts as a counterstain for the nucleus

Correct Answer:- Option-C

Question13:-When EQAS programme is not available or not suitable the laboratory should use following alternative methodologies except

A:-Participation in sample exchange with other laboratory

B:-Retesting of retained patient sample

C:-Analysis of materials from cell and tissue repositories

D:-Analysis of patient samples from clinical correlation studies

Correct Answer:- Option-B

Question14:-What is the mechanism of JAK 2 gene ?

A:-Activation of JAK - STAT Signaling pathway

B:-Cytokine - independent cell proliferation, survival & over production of blood cells

C:-Both 1 and 2

D:-None of above

Correct Answer:- Option-C

Question15:-Following statement is true for EGFR gene

A:-Inactivating mutations of the tumor suppressor gene EGFR occur in approximately 45% lung adenocarcinoma

B:-Activating mutations involving EGFR occur more commonly in females, never - smokers and Asians

C:-Lung tumors frequently harbor driver mutations which are generally not mutually exclusive are EGFR mutation and ALK/ROS1/RET rearrangement

D:-Both 1 and 3

Correct Answer:- Option-B

Question16:-

Artificial Intelligence in cancer pathology works on following principal

A:-Machine learning

B:-Deep learning

C:-Computer vision

D:-All of above

Correct Answer:- Option-D

Question17:-

Founding clonal event in Hairy cell leukemia is

A:-BRAF mutation

B:-JAK 2 mutation

C:-EGFR mutation

D:-CKIT mutation

Correct Answer:- Option-A

Question18:-

CKIT mutation are found in AML patients predominantly associated with following

A:- t (8; 21) (q22; q22)

B:-Inv. (16) (p13q22)

C:-Both 1 and 2

D:-None of the above

Correct Answer:- Option-C

Question19:-

Following are the established predictive biomarkers in colorectal carcinoma except

A:-PDI/PDL1

B:-RAS Oncogene

C:-BRAF Oncogene

D:-Microsatellite instability

Correct Answer:- Option-A

Question20:-

Following statements are true except

A:-In site hybridization for EBER analysis is a quantitative test

B:-By in site hybridization method Epstein - Barr encodes RNA is detected

C:-EBER positive slide shows a blue colored reaction product in infected cells

D:-ISH is a Multiple step methodology that required specialized training

Correct Answer:- Option-A

Question21:-In grade group 2 Prostatic acinar adenocarcinoma which of the following patterns is a contraindication for active surveillance

A:-Fused glands

B:-Cribriform glands

C:-Poorly formed glands

D:-Well-formed glands

Correct Answer:- Option-B

Question22:-In the DESTINY - Breast 04 and 06 trials eligibility for treatment with Antibody-drug conjugate in the metastatic setting was considered for

A:-HER2 IHC score 1+

B:-HER2 IHC score 2+/ ISH negative

C:-HER2 IHC score 0+

D:-All of the above

Correct Answer:- Option-D

Question23:-In rectal adenocarcinoma tumour deposits in the pericolic fat in the absence of unequivocal lymph node metastasis are recorded as

A:-N1c

B:-N0

C:-N1b

D:-N1a

Correct Answer:- Option-A

Question24:-The SEE-FIM protocol is applied for the grossing of

A:-Uterine cervix

B:-Bile duct

C:-Fallopian tube

D:-Urinary bladder

Correct Answer:- Option-C

Question25:-In Squamous cell carcinoma of the oral cavity the worst pattern of invasion-5 (WPOI-5) is considered when there is

A:-Tumour dispersion of ≥ 1 mm between tumour satellites

B:-Presence of extratumoral PNI

C:-Presence of extratumoral angiolymphatic invasion

D:-All of the above

Correct Answer:- Option-D

Question26:-As per ASCO-CAP recommendation High-risk HPV testing is to be done for all newly diagnosed squamous cell carcinomas of

A:-Hypopharynx

B:-Oropharynx

C:-Larynx

D:-Posterior tongue

Correct Answer:- Option-B

Question27:-Renal cell carcinoma subtype where WHO-ISUP grading is not applicable

A:-SDH-deficient RCC

B:-Clear cell RCC

C:-Papillary RCC

D:-Chromophobe RCC

Correct Answer:- Option-D

Question28:-The T stage of a 3.0cm invasive breast carcinoma with associated Paget disease of the nipple is

A:-T2

B:-T4a

C:-T4b

D:-T4d

Correct Answer:- Option-A

Question29:-P16 IHC performed for Head and neck cancers is considered positive when there is

A:-Less than 50% moderate-to-strong nuclear and cytoplasmic staining

B:-Less than 70% but greater than 50% moderate-to-strong nuclear and cytoplasmic staining

C:-Greater than or equal to 70% moderate-to-strong nuclear and cytoplasmic staining

D:-Both 2 and 3

Correct Answer:- Option-C

Question30:-MELF-type invasion on histology is most often seen in which of the molecular subtype of Endometrioid carcinoma

A:-POLE-mutated EC

B:-P53-mutant EC

C:-MMR-deficient EC

D:-NSMP EC

Correct Answer:- Option-C

Question31:-Which precursor lesion is classically linked to the development of p53-abnormal vulvar squamous cell carcinoma ?

A:-Lichen sclerosis

B:-HPV 16 infection

C:-VIN usual type

D:-Condyloma acuminatum

Correct Answer:- Option-A

Question32:-An 8-year-old child presents with multiple pearly, dome-shaped cutaneous papules over the trunk and upper extremities. Histopathology reveals acanthotic epidermis with keratinocytes containing abundant intracytoplasmic eosinophilic inclusions. Which infectious agent is the most likely cause ?

A:-Variola virus

B:-Molluscum contagiosum virus

C:-Human papillomavirus type 16

D:-Herpes simplex virus

Correct Answer:- Option-B

Question33:-Which molecular subtype of breast carcinoma shows the closest association with a basal-like intrinsic gene expression profile ?

A:-Luminal A

B:-Luminal B

C:-HER2-enriched

D:-Triple-negative breast carcinoma

Correct Answer:- Option-D

Question34:-The most frequent molecular alteration identified in phyllodes tumors of the breast, particularly benign and borderline tumors, involves mutation in

A:-EGFR

B:-MED12

C:-PTEN

D:-RB1

Correct Answer:- Option-B

Question35:-A middle-aged woman diagnosed with invasive lobular carcinoma of the breast subsequently undergoes upper gastrointestinal endoscopy for dyspeptic symptoms. Histologic examination reveals diffuse gastric carcinoma composed predominantly of signet ring cells. The coexistence of these malignancies raises suspicion for a hereditary tumor syndrome. What is the characteristic molecular defect underlying this syndrome?

A:-Amplification of ERBB2 on chromosome 17q

B:-Activating mutations in PIK3CA on chromosome 3q

C:-Biallelic inactivation of CDH1 on chromosome 16q

D:-Germline mutation of STK11

Correct Answer:- Option-C

Question36:-An uncommon low-grade breast carcinoma demonstrates morphologic overlap with papillary Thyroid carcinoma, including abundant eosinophilic cytoplasm and inverted nuclear polarity. The lesion shows luminal differentiation without evidence of thyroid lineage on immunohistochemistry. Which driver mutation is considered characteristic of this entity ?

A:-TP53 mutation

B:-IDH2 hotspot mutation

C:-PTEN inactivation

D:-ETV6-NTRK3 gene fusion

Correct Answer:- Option-B

Question37:-A woman undergoing evaluation for suspicious microcalcifications on screening mammography is Found to have proliferative breast lesions composed of flat epithelial atypia and atypical ductal hyperplasia on core biopsy. These precursor lesions are considered part of the low-grade luminal neoplastic pathway. Which molecular alteration is most characteristically implicated in progression to invasive carcinoma in this pathway ?

A:-TP53 mutation with HER2 amplification

B:-BRCA1 inactivation with basal-like differentiation

C:-PIK3CA mutation with loss of chromosome 16q

D:-MYC amplification with marked chromosomal instability

Correct Answer:- Option-C

Question38:-A 15-year-old male child presents with persistent cervical lymphadenopathy. Excision biopsy reveals scattered large atypical mononuclear and multinucleated cells with prominent nucleoli admixed with a polymorphic population of lymphoid cells. The main differential diagnoses include classical Hodgkin lymphoma and anaplastic large cell lymphoma. Which immunohistochemical marker panel would be most useful in differentiating these two entities?

A:-ALK, CD30, MUM1, CD45RB

B:-PAX5, CD45RB, CD15, ALK

C:-ALK, MUM1, CD30, LCA

D:-MUM1, CD15, CD30, CD45RB

Correct Answer:- Option-B

Question39:-A paediatric head and neck soft tissue tumor demonstrates primitive spindle and round cells with focal evidence of skeletal muscle differentiation, including occasional strap cells. Immunohistochemistry is performed to confirm the diagnosis. Which of the following immunohistochemical markers is least likely to demonstrate tumor cell positivity ?

A:-Desmin

B:-Myogenin

C:-MyoD1

D:-Myoglobin

Correct Answer:- Option-D

Question40:-Fine-needle aspiration performed from an enlarged cervical lymph node in a young woman reveals a mixed lymphoid population admixed with numerous large histiocytic cells showing intact lymphocytes within their cytoplasm. Based on these cytologic findings, what is the most likely diagnosis ?

A:-Langerhans cell histiocytosis

B:-Dermatopathic lymphadenitis

C:-Rosai-Dorfman disease

D:-Kikuchi's lymphadenitis

Correct Answer:- Option-C

Question41:-The Azzopardi effect is classically seen in

A:-Adenocarcinoma of lung

B:-Small cell carcinoma of lung

C:-Squamous cell carcinoma of lung

D:-Typical carcinoid tumor

Correct Answer:- Option-B

Question42:-Most reliable marker for pheochromocytoma ?

A:-Synaptophysin

B:-Chromogranin A

C:-S100

D:-Tyrosine hydroxylase

Correct Answer:- Option-B

Question43:-Most adverse prognostic alteration in PTC

A:-RET

B:-NTRK

C:-TERT promoter mutation

D:-PTEN

Correct Answer:- Option-C

Question44:-NUT-positive thymic carcinoma is associated with

A:-EWSR1-ATF1

B:-MAML2

C:-NUTM1 rearrangement

D:-YAP1-MAML2

Correct Answer:- Option-C

Question45:-Pulmonary invasive mucinous adenocarcinoma is commonly associated with

A:-EGFR

B:-KRAS

C:-ROS1

D:-RET

Correct Answer:- Option-B

Question46:-Which of the following hereditary susceptibility genes is associated with the highest risk of metastasis in pheochromocytoma/paraganglioma?

A:-VHL

B:-RET

C:-SDHB

D:-SDHC

Correct Answer:- Option-C

Question47:-NOT a recognized HCC subtype

A:-Fibrolamellar

B:-Steatohepatic

C:-Neutrophil-rich

D:-Clear cell cholangiocarcinoma

Correct Answer:- Option-D

Question48:-NET G3 is characterized by

A:-Poor differentiation

B:-Well-differentiated morphology with high proliferative activity

C:-Small cell morphology

D:-Ki67 negative

Correct Answer:- Option-B

Question49:-Goblet Cell Adenocarcinoma most commonly arises in

A:-Colon

B:-Ileum

C:-Appendix

D:-Rectum

Correct Answer:- Option-C

Question50:-Worst prognosis mesothelioma subtype

A:-Epithelioid

B:-Biphasic

C:-Sarcomatoid

D:-Deciduoid

Correct Answer:- Option-C

Question51:-Which of the following is FALSE regarding Homologous recombination - deficient high grade Serous carcinoma ovary ?

A:-Lack the ability to repair double strand DNA breaks

B:-Frequently show SET pattern on microscopy

C:-Are platinum resistant

D:-Maintenance therapy with PARP inhibitors improves progression free survival

Correct Answer:- Option-C

Question52:-Acinar adenocarcinoma of prostate (Gleason score 7) is positive for _____ on immunohistochemistry.

A:-NKX3-1

B:-NKX2-2

C:-INSM1

D:-IFITM1

Correct Answer:- Option-A

Question53:-Which of the following testicular germ cell tumour is NOT derived from germ cell neoplasia in situ ?

A:-Teratoma post pubertal type

B:-Yolk sac tumour prepubertal type

C:-Seminoma

D:-Choriocarcinoma

Correct Answer:- Option-B

Question54:-ISUP grade of Clear cell renal cell carcinoma with foci of rhabdoid differentiation

A:-Grade 3

B:-Grade 4

C:-Grade 5

D:-Are not graded

Correct Answer:- Option-B

Question55:-Which of the following molecular subtype of endometrioid carcinoma of uterus has excellent prognosis ?

A:-POLE ultramutated

B:-MMR deficient

C:-P53 mutated

D:-NSMP

Correct Answer:- Option-A

Question56:-DICER1 mutation is seen in which of the following ovarian tumours

A:-Moderate/poorly differentiated Sertoli-Leydig cell tumour with heterologous elements

B:-Well differentiated Sertoli-Leydig cell tumour

C:-Sex cord tumour with annular tubules

D:-Adult granulosa cell tumour

Correct Answer:- Option-A

Question57:-Which of the following is a malignant neoplasm of implantation site intermediate trophoblast ?

A:-Atypical placental site nodule

B:-Epitheloid trophoblastic tumour

C:-

Placental site trophoblastic tumour

D:-Choriocarcinoma

Correct Answer:- Option-C

Question58:-The commonest molecular alteration seen in Endometrial stromal nodule

A:-JAZF1 - SUZ12 fusion

B:-JAZF1 - PFH1 fusion

C:-YWHAE -NUTM2A/B fusion

D:-None of the above

Correct Answer:- Option-A

Question59:-IHC marker OCT 3/4 is NEGATIVE in

A:-Seminoma

B:-Yolk sac tumour

C:-Embryonal carcinoma

D:-All of the above

Correct Answer:- Option-B

Question60:-Which of the following is an HPV associated carcinoma of cervix ?

A:-Invasive stratified mucin producing carcinoma

B:-Mesonephric carcinoma of cervix

C:-Clear cell carcinoma

D:-Gastric type adenocarcinoma of cervix

Correct Answer:- Option-A

Question61:-The essential diagnostic criteria for Glioblastoma IDH-wild type include all except ?

A:-TERT promoter mutation

B:-ATRX mutation

C:-EGFR gene amplification

D:-+7/-10 chromosome copy-number alterations

Correct Answer:- Option-B

Question62:-

Flexner-Wintersteiner rosettes are a characteristic finding in?

A:-Pituitary blastoma

B:-Medulloblastoma

C:-Retinoblastoma

D:-Neuroblastoma

Correct Answer:- Option-C

Question63:-A reliable surrogate IHC marker for molecular analysis of Giant cell tumor of bone is?

A:-H3.3 G34R

B:-H3K27M

C:-H3K27me3

D:-H3.3 G34W

Correct Answer:- Option-D

Question64:-Clear cell sarcoma of the kidney is characterized by the following mutations except ?

A:-BCOR exon 15 ITD

B:-YWHAE :: N UTM2 fusion

C:-FUS-NFATC2 fusion

D:-BCOR::CCNB3 fusion

Correct Answer:- Option-C

Question65:-Among the meningioma subtypes the following are WHO grade 2 except

A:-Papillary meningioma

B:-Clear cell meningioma

C:-Atypical meningioma

D:-Chordoid meningioma

Correct Answer:- Option-A

Question66:-*FUS/EWSR1-DDIT3* gene fusions are seen in this sarcoma

A:-Myxoid liposarcoma

B:-Pleomorphic liposarcoma

C:-Myxoid pleomorphic liposarcoma

D:-Round cell sarcomas with *EWSR1*-non-ETS fusions

Correct Answer:- Option-A

Question67:-The most common location of Medulloepithelioma of the eye is

A:-Cornea

B:-Ciliary body

C:-Conjunctiva

D:-Caruncle

Correct Answer:- Option-B

Question68:-70-90% of cardiac rhabdomyomas have been reported in association with ?

A:-DICER 1 syndrome

B:-Lynch syndrome

C:-Li-Fraumeni syndrome

D:-Tuberous sclerosis

Correct Answer:- Option-D

Question69:-Which among these tumors commonly involve the epiphyseal region of long bones ?

A:-Osteosarcoma

B:-Chondroblastoma

C:-Ewing sarcoma

D:-Enchondroma

Correct Answer:- Option-B

Question70:-Which among these is a WHO grade 1 brain tumour ?

A:-Clear cell meningioma

B:-Pleomorphic Xanthoastrocytoma

C:-Diffuse Astrocytoma IDH mutant

D:-Subependymoma

Correct Answer:- Option-D

Question71:-Acute myeloid leukaemia with RUNX1::RUNX1T1 fusion is associated with which translocation ?

A:- t(15;17)

B:-t(9;22)

C:-t(8;21)

D:-inv(16)

Correct Answer:- Option-C

Question72:-The two molecular subtypes identified in Peripheral T cell lymphoma –NOS are

A:-Germinal center and activated B-cell type

B:-TBX21 and GATA3

C:-Luminal and basal type

D:-NPM1 and ALK type

Correct Answer:- Option-B

Question73:-A young woman presents with fever, enlarged cervical lymph node. Her lymph node biopsy reveals suppurative granulomas with stellate microabscesses with palisading histiocytes. What is the most likely causative organism ?

A:-Mycobacterium leprae

B:-Bartonella henselae

C:-Mycobacterium tuberculosis

D:-Rickettsia

Correct Answer:- Option-B

Question74:-Which of the following favors lymphoblastic lymphoma over Burkitt lymphoma ?

A:-CD 10 positivity

B:-High Ki-67 index

C:-TdT positivity

D:-MYC rearrangement

Correct Answer:- Option-C

Question75:-Which of the following is caused by HTLV-1 ?

A:-Burkitt lymphoma

B:-T lymphoblastic leukemia

C:-
Adult T-cell leukaemia/lymphoma

D:-Hodgkin lymphoma

Correct Answer:- Option-C

Question76:-The majority of classic follicular lymphomas harbour which genetic abnormality ?

A:-t(8;14)(q24;q32)

B:-t(11;14)(q13;q32)

C:-t(14;18)(q32;q21)

D:-t(9;22)(q34;q11)

Correct Answer:- Option-C

Question77:-Regarding ThinPrep and SurePath liquid-based cytology systems, which of the following statements is INCORRECT ?

A:-ThinPrep utilizes a filtration -based method to prepare the final slide

B:-SurePath utilizes centrifugation and density- gradient enrichment during specimen processing

C:-The preservative used in SurePath contains formaldehyde, whereas ThinPrep preservative does not

D:-Cellularity obtained with ThinPrep is generally higher than that obtained with SurePath because filtration concentrates all cells present in the sample

Correct Answer:- Option-D

Question78:-Which of the following organisms is NOT specifically reportable under the Bethesda System when identified on a cervical cytology specimen ?

A:-Trichomonas vaginalis

B:-Candida species

C:-Actinomyces species

D:-Chlamydia trachomatis

Correct Answer:- Option-D

Question79:-

Fine needle aspiration cytology of a salivary gland lesion shows numerous basaloid epithelial cells arranged in trabeculae and nests, intimately associated with stromal fragments. Hyaline globules are absent. Which cytomorphologic feature would most strongly favor basal cell adenoma over adenoid cystic carcinoma ?

A:-Presence of basaloid cells with scant cytoplasm

B:-Presence of trabecular arrangements of tumor cells

C:-Presence of peripheral palisading with stromal fragments invested by spindle-shaped myoepithelial cells

D:-Presence of extracellular basement membrane-like material

Correct Answer:- Option-C

Question80:-The Paris System diagnostic criteria for High Grade Urothelial Carcinoma include a minimum of

- A:-1 abnormal cell
- B:-2 to 6 abnormal cells
- C:-5 to 10 abnormal cells
- D:-50 abnormal cells

Correct Answer:- Option-C

Question81:-A tissue specimen intended for extensive immunohistochemical analysis is accidentally fixed in unbuffered formalin for a prolonged period. Which of the following is the most likely consequence ?

- A:-Enhanced antigenicity due to increased crosslinking
- B:-Reduced antigen retrieval requirements
- C:-Excessive cross-linking leading to decreased antibody binding
- D:-Complete loss of tissue morphology

Correct Answer:- Option-C

Question82:-Formalin pigment (acid hematin) is most likely to develop when

- A:-Tissue is fixed in neutral buffered formalin
- B:-Acidic formalin is used, especially in blood-rich tissues
- C:-Tissue is frozen before fixation
- D:-Alcohol fixation exceeds 24 hours

Correct Answer:- Option-B

Question83:-A liver biopsy shows PAS-positive cytoplasmic globules. After diastase digestion, the positivity persists. This finding suggest the material is

- A:-Glycogen
- B:-Neutral mucin
- C:-Alpha-1 antitrypsin accumulation

D:-Fungal cell wall polysaccharides

Correct Answer:- Option-C

Question84:-A HER2 FISH assay demonstrates a HER2/CEP17 ratio of 2.5. This result is interpreted as

A:-HER2 deletion

B:-HER2 amplification

C:-Chromosome 17 monosomy only

D:-Technical failure

Correct Answer:- Option-B

Question85:-Which flow cytometric finding is most suggestive of a monoclonal B-cell population ?

A:-Mixed expression of kappa and lambda light chains

B:-Absence of CD45 expression

C:-Predominant expression of either kappa or lambda light chains

D:-Increased side scatter only

Correct Answer:- Option-C

Question86:-Frozen sections are generally cut at approximately -20°C because

A:-Most tissues achieve optimal hardness at this temperature

B:-Lipids become soluble at this temperature

C:-Formalin fixation occurs rapidly at this temperature

D:-Ice crystal formation is completely prevented

Correct Answer:- Option-A

Question87:-A positive control in IHC is primarily used to verify

A:-Absence of endogenous enzyme activity

B:-Adequate tissue fixation only

C:-Proper functioning of the staining procedure and reagents

D:-Specificity of the tumour diagnosis

Correct Answer:- Option-C

Question88:-In effusion cytology, reactive mesothelial cells may mimic malignant cells because they commonly exhibit

A:-Complete absence of nucleoli

B:-High nuclear-to-cytoplasmic ratio with nuclear enlargement and prominent nucleoli

C:-Intracytoplasmic mucin production

D:-Keratinization

Correct Answer:- Option-B

Question89:-A pleural effusion specimen contains malignant cells. The cell block shows positivity for CK7, BerEP4, and MOC31, but negativity for air calretinin and WT1. The most likely interpretation is

A:-Reactive mesothelial proliferation

B:-Malignant mesothelioma

C:-Metastatic adenocarcinoma

D:-Lymphoma

Correct Answer:- Option-C

Question90:-

What is the major advantage of preparing a cell block from an effusion specimen ?

A:-Eliminates the need for microscopy

B:-Allows paraffin sectioning and ancillary studies such as IHC

C:-Increases specimen volume

D:-Preserves cells without fixation

Correct Answer:- Option-B

Question91:-Acute myeloid leukaemia with t(8;21) cytogenetic abnormality involves which gene fusion ?

A:-RUNX1::RUNX1T1

B:-CBFB: :MYH11

C:-PML::RARA

D:-ETV6::RUNX1

Correct Answer:- Option-A

Question92:-A 5 year old boy present with fever, generalized lymph node enlargement. Bone marrow aspirate showed 90% lymphoblasts. Which of the following genetic abnormality is most commonly associated with B -lymphoblastic leukaemia in this age group and carries an excellent prognosis ?

A:-t(9;22)

B:-t (15;17)

C:-t(12;21)

D:-t(4;11)

Correct Answer:- Option-C

Question93:-Which of the following statements regarding FISH is false ?

A:-FISH always require cells to be in metaphase to detect genetic abnormalities

B:-FISH is used in monitoring measurable residual disease

C:-FISH play important role in determining most appropriate targeted therapy

D:-FISH can detect microdeletions that are missed in conventional karyotyping

Correct Answer:- Option-A

Question94:-Which of the following abnormalities are associated with favourable response in plasma cell myeloma?

A:-t(11;14)

B:-Deletion 17p

C:-t(4;14)

D:-t(14;16)

Correct Answer:- Option-A

Question95:-Which wavelength is used to measure absorbance of nucleic acids in a standard UV spectrophotometer ?

A:-260 nm

B:-230 nm

C:-340 nm

D:-280 nm

Correct Answer:- Option-A

Question96:-Which of the following option best describe the primary purpose of polymerase chain reaction ?

A:-DNA amplification

B:-DNA sequencing

C:-DNA degradation

D:-Protein synthesis

Correct Answer:- Option-A

Question97:-Role of Taq polymerase in PCR?

A:-Taq polymerase is efficient at copying RNA to DNA

B:-It fixes errors in DNA sequence

C:-Taq polymerase can withstand high denaturation temperature

D:-Taq polymerase separates DNA strands

Correct Answer:- Option-C

Question98:-Primary target in southern blotting

A:-DNA

B:-RNA

C:-Protein

D:-Lipids

Correct Answer:- Option-A

Question99:-Purpose of initial gel electrophoresis in southern blotting

- A:-Separate fragments of DNA by their size
- B:-Exponentially amplify the DNA fragments
- C:-Denaturation of dsDNA into single strands
- D:-Bind DNA to membrane

Correct Answer:- Option-A

Question100:-Primary function of dideoxynucleoside triphosphates (ddNTPs) in sanger sequencing

- A:-Primer for DNA polymerase enzyme
- B:-Act as fluorescent dye which is attached to DNA
- C:-Act as chain terminator by blocking further phosphodiester formation
- D:-Unwinding of dsDNA template

Correct Answer:- Option-C