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ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2025

Post-Doctoral Certificate Course (PDCC) in Neuropathology

Time:90 Minutes

Max. Marks: 100

(Select the most appropriate answer)
(There are **no negative** marks for wrong answers)

1	**The morphologic feature of acute neuronal injury (red neurons) is:**	
	a	Gain of Nissl substance
	b	Intense cytoplasmic basophilia
	c	Intense cytoplasmic eosinophilia
	d	Swelling of cell body
2	**Rosenthal fibres are seen in all of the following, *except:***	
	a	Long-standing gliosis
	b	Alexander disease
	c	Pilocytic astrocytoma
	d	Canavan disease
3	**In generalized edema, gross examination of the human brain shows the following features, *except:***	
	a	Flattened gyri
	b	Compressed ventricular cavities
	c	Widened sulci
	d	Narrowed sulci
4	**Secondary hemorrhagic lesions in pons following transtentorial herniation is:**	
	a	Duret hemorrhages
	b	Dulbeck hemorrhages
	c	Durck hemorrhages
	d	Olivary hemorrhages
5	**The most common cause of spontaneous (nontraumatic) subarachnoid hemorrhage is:**	
	a	Hematologic disorders
	b	Ruptured saccular aneurysm in a cerebral artery
	c	Tumors
	d	Arteriovenous malformation

6	**The principal routes by which microbes enter the nervous system include all, *except:***	
	a	Lymphatic spread
	b	Along peripheral nerves
	c	Local extension
	d	Hematogenous route
7	**Identify the *true* statement with respect to tuberculous meningitis:**	
	a	CSF glucose is markedly reduced
	b	Absence of CSF pleocytosis
	c	CSF glucose is moderately reduced or normal
	d	CSF protein is markedly reduced
8	**All of the following are true about Prion diseases, *except:***	
	a	Caused by spreading of misfolded protein
	b	Kuru plaques are intracellular deposits of aggregated abnormal PrP
	c	Spongiform transformation of cerebral cortex
	d	Inflammation is absent
9	**An immunocompromised middle-aged male presents with seizures. MRI brain revealed multiple ring-enhancing lesions near grey-white junction and basal ganglia. Brain biopsy from the lesion showed foci of coagulative necrosis and vasculitis with presence of tachyzoites and few bradyzoites. The diagnosis is:**	
	a	Cerebral malaria
	b	Cerebral toxoplasmosis
	c	Cerebral amoebiasis
	d	Trypanosomiasis
10	**Microscopic abnormalities seen in Alzheimer's disease include all, *except:***	
	a	Neurofibrillary tangles
	b	Pick bodies
	c	Neuritic plaques
	d	Cerebral amyloid angiopathy
11	**All of the following are true about Huntington's disease, *except:***	
	a	Huntington's disease is an autosomal dominant disease
	b	It is a trinucleotide repeat expansion disease
	c	It is associated with anticipation
	d	Huntington's disease is an autosomal recessive disease
12	**Identify the correct molecular marker of Glioblastoma, IDH-wildtype:**	
	a	Chromosome 7 loss, chromosome 10 gain
	b	TERT promoter mutation
	c	EGFR gene deletion
	d	1p19q co-deletion
13	**SMARCE1 mutations are common in:**	
	a	Metaplastic meningioma
	b	Secretory meningioma
	c	Chordoid meningioma
	d	Clear cell meningioma

14	**A 35-year-old male patient is diagnosed with an IDH-mutant astrocytoma, CNS WHO grade 3 based on morphology and immunohistochemistry. The Oncologist wants to rule out a CNS WHO grade 4 tumor. Which test will the Pathologist perform?**	
	a	Test for CDKN2A/2B homozygous deletion
	b	Test for 1p/19q co-deletion
	c	Test for EGFR gene amplification
	d	Test for MGMT gene methylation
15	**Opsoclonus as a paraneoplastic presentation is most frequently asssociated with:**	
	a	Medulloblastoma
	b	Glioblastoma
	c	Neuroblastoma
	d	Pineoblastoma
16	**The lesions associated with Neurofibromatosis 1 (NF1) include all, *except:***	
	a	Lisch nodules
	b	Spinal ependymomas
	c	Optic pathway gliomas
	d	Café au lait spots
17	**All of the following are features of myasthenia gravis associated with anti-acetylcholine receptor antibodies, *except:***	
	a	Associated with thymic abnormalities
	b	Fluctuating weakness
	c	Antibodies do not fix complement
	d	Decremental muscle response on repeated stimulation
18	**Lambert-Eaton myasthenic syndrome is an autoimmune disorder caused by antibodies that block acetyl choline release by inhibiting presynaptic:**	
	a	Calcium channel
	b	Sodium channel
	c	Potassium channel
	d	Chloride channel
19	**A 65-year-old male with slowly progressive muscle weakness and moderately elevated CPK undergoes muscle biopsy. The biopsy shows myopathic features, endomysial CD8+ lymphocytes, rimmed vacuoles on Modified Gomori trichrome and tubulofilamentous inclusions in myofibers on electron microscopy. The diagnosis is:**	
	a	Inclusion body myositis
	b	Dermatomyositis
	c	Immune-Mediated Necrotizing Myopathy
	d	Overlap myositis
20	**Identify the *correct* statement with respect to Duchenne muscular dystrophy:**	
	a	Autosomal dominant muscular dystrophy
	b	Caused by frameshift mutations and deletions
	c	Autosomal recessive muscular dystrophy
	d	Dystrophin is a very small gene

21	**In a myelinated axon, the myelinated segment created by a single Schwann cell wrapping around a single axon is called:**	
	a	Preaxon
	b	Paranode
	c	Internode
	d	Node of Ranvier
22	**In a sural nerve biopsy, recurrent demyelination and remyelination associated with proliferation of Schwann cells results in formation of:**	
	a	Traumatic neuroma
	b	Myelin ovoids
	c	Tubers
	d	Onion bulbs
23	**With regard to Charcot-Marie-Tooth disease 1 (CMT1), all of the following are true, *except:***	
	a	Autosomal dominant demyelinating neuropathy
	b	Linked to mutations in the *GJB1* gene
	c	Can be caused by duplication of a region on chromosome 17
	d	Most common type of hereditary motor and sensory neuropathy
24	**With regard to regenerating fibres in the skeletal muscle, all of the following are true, *except:***	
	a	Basophilic sarcoplasm
	b	Enlarged nuclei
	c	Pyknotic nuclei
	d	Cytoplasm rich in RNA
25	**Identify the *correct* statement with respect to Immune-Mediated Necrotizing Myopathy (IMNM):**	
	a	Muscle biopsy shows dense inflammatory cell infiltrate
	b	Muscle fibre necrosis is uncommon
	c	Creatine kinase levels are normal
	d	Associated with autoantibodies against HMG-CoA reductase
26	**Identify the *correct* statement with respect to Cryptococcal CNS infection:**	
	a	Infections in immunosuppressed individuals mostly caused by Cryptococcus gattii
	b	Infections in immunocompetent individuals likely caused by Cryptococcus neoformans
	c	Cryptococcal organisms are typically found in expanded Virchow-Robin spaces
	d	CSF protein is very low
27	**With respect to multiple sclerosis, all of the following statements are true, *except:***	
	a	Men are affected twice as often as women
	b	Plaques commonly occur adjacent to lateral ventricles
	c	Caused by an autoimmune response directed against components of the myelin sheath
	d	Active plaques are associated with abundant foamy macrophages
28	**In Neuromyelitis Optica, the antibodies are present against:**	
	a	Neurofilament
	b	Aquaporin-4
	c	Myelin basic protein
	d	Peripheral myelin protein 22

29	**Identify the *wrongly* paired protein and disease:**	
	a	Abeta (Aβ): Alzheimer disease
	b	TDP43: Frontotemporal lobar dementia
	c	α-synuclein: Amyotrophic lateral sclerosis
	d	Tau: corticobasal degeneration
30	**Identify the newly recognized tumor type included in the 5th edition of the WHO classification of tumors of the Central Nervous System:**	
	a	Diffuse hemispheric glioma, H3 G34-mutant
	b	Angiocentric glioma
	c	Rosette-forming glioneuronal tumour
	d	Dysembryoplastic neuroepithelial tumour
31	**All of the following are true with respect to the changes in nomenclature and grading of diffuse gliomas in the 5th edition of the WHO classification of tumors of the Central Nervous System, *except:***	
	a	Diffuse gliomas are divided into: adult-type and paediatric-type
	b	Incorporation of molecular criteria for tumor grading
	c	Use of Roman numerals to indicate the tumor grade
	d	Use of Not Otherwise Specified (NOS) and Not Elsewhere Classified (NEC) for tumor designation
32	**Mutations in all of the following genes are commonly present in oligodendrogliomas, *except:***	
	a	TERT promoter
	b	CIC
	c	FUBP1
	d	PTEN
33	**CD34 immunostain is useful for diagnosis of:**	
	a	Polymorphous low-grade neuroepithelial tumour of the young
	b	Angiocentric glioma
	c	Subependymal giant cell astrocytoma
	d	Papillary glioneuronal tumour
34	**A biopsy from a thalamic tumor in an 8-year-old girl shows a high-grade astrocytic glioma. Identify the most useful panel of immunohistochemical markers which can be performed in this tumor to render a definite diagnosis:**	
	a	CD34, BRAF p.V600E, OLIG2
	b	H3 K27me3, H3 p.K27M, EZHIP
	c	IDH1 p.R132H, ATRX, p53
	d	GFAP, OLIG2, EMA
35	**The triad of OLIG2 negativity, loss of ATRX expression and diffuse p53 positivity is a desirable diagnostic criteria for:**	
	a	Diffuse midline glioma, H3 K27-altered
	b	Diffuse paediatric-type high-grade glioma, H3-wildtype and IDH-wildtype
	c	Infant-type hemispheric glioma
	d	Diffuse hemispheric glioma, H3 G34-mutant
36	**Presently, the only method for definitively establishing a diagnosis of High-grade astrocytoma with piloid features is:**	
	a	Sanger sequencing
	b	Fluorescence in situ hybridization
	c	DNA methylation profiling
	d	RNA sequencing

37	**Nuclear expression of TTF1 is observed in all of the following tumors, *except:***	
	a	Subependymal giant cell astrocytoma
	b	Chordoid glioma
	c	Subependymoma
	d	Pituicytoma
38	**A 20-year-old male patient with history of epilepsy since 10-years of age underwent surgery for a temporal lobe lesion. On imaging, the lesion is cystic, with lobulated architecture and sharply defined margin. Histopathology reveals a cortical tumor composed of axonal bundles lined by oligodendroglia-like cells enclosing myxoid matrix with floating neurons. Your diagnosis is:**	
	a	Ganglioglioma
	b	Dysembryoplastic neuroepithelial tumour
	c	Multinodular and vacuolating neuronal tumour
	d	Diffuse glioneuronal tumour with oligodendroglioma-like features and nuclear clusters
39	**The CNS WHO grade of choroid plexus carcinoma is:**	
	a	2
	b	1
	c	4
	d	3
40	**p65 is a useful immunohistochemistry-based surrogate marker for:**	
	a	Spinal ependymoma, MYCN-amplified
	b	Supratentorial ependymoma, YAP1 fusion-positive
	c	Posterior fossa group B (PFB) ependymoma
	d	Supratentorial ependymoma, ZFTA fusion-positive
41	**A 3-year-old boy undergoes surgery for a fourth ventricular tumor. Histopathology shows a circumscribed tumor with perivascular pseudorosettes, true rosettes, nuclear pleomorphism and brisk mitotic activity. The immunohistochemical marker required to assign this tumor to a molecular group is:**	
	a	H3 K27me3
	b	EZHIP
	c	L1CAM
	d	OLIG2
42	**The histopathological feature used to differentiate between choroid plexus papilloma and atypical choroid plexus papilloma is:**	
	a	≥ 4 mitoses/10 high power field of 0.23mm^2
	b	≥ 2 mitoses/10 high power field of 0.23mm^2
	c	≥ 6 mitoses/10 high power field of 0.23mm^2
	d	≥ 1 mitoses/10 high power field of 0.23mm^2
43	**Identify the panel of markers useful for identification of molecular subtypes of medulloblastomas by immunohistochemistry:**	
	a	LIN28A, Synaptophysin, Vimentin
	b	Synaptophysin, OLIG2, SMARCB1
	c	YAP1, GAB1, Beta-catenin
	d	EMA, Filamin A, SOX10

44	**A 2-year-old child presents with a cerebellar tumor. Histopathology shows a lobular architecture, streaming of neurocytic cells and small cells in interlobular regions with elevated Ki-67 labelling index. A special stain was done to highlight the histology better. Identify the correct combination of special stain, histological diagnosis and the most likely molecular subtype of this tumor:**	
	a	Reticulin, Medulloblastoma with extensive nodularity, SHH-activated
	b	PTAH, Desmoplastic/nodular medulloblastoma, non-WNT/non-SHH
	c	PTAH, Medulloblastoma with extensive nodularity, WNT-activated
	d	Reticulin, Desmoplastic/nodular medulloblastoma, SHH-activated
45	**A 1-year-old boy presents with a tumor in the left parietal lobe. Histopathology shows a heterogeneous morphology with small embryonal cells, focal spindle cells and scattered cells with rhabdoid morphology. Immunoprofile demonstrates variable expression of EMA, SMA, vimentin and synaptophysin with intact nuclear SMARCB1 expression. A final diagnosis of Atypical teratoid/rhabdoid tumour was rendered. Which marker was done to support this diagnosis:**	
	a	SMARCA4, loss of nuclear expression
	b	BCOR, presence of nuclear expression
	c	FOXR2, presence of nuclear expression
	d	SMARCE1, loss of nuclear expression
46	**Identify the *wrong* statement with respect to Atypical neurofibromatous neoplasm of uncertain biological potential (ANNUBP):**	
	a	Is a Schwann cell neoplasm
	b	Can show cytological atypia
	c	Mitotic count of > 1 mitosis/50 HPF and > 3 mitoses/10 HPF
	d	Mitotic count of > 1 mitosis/50 HPF and < 3 mitoses/10 HPF
47	**Crooke cell adenoma is a subtype of:**	
	a	Corticotroph pituitary neuroendocrine tumor
	b	Somatotroph pituitary neuroendocrine tumor
	c	Lactotroph pituitary neuroendocrine tumor
	d	Gonadotroph pituitary neuroendocrine tumor
48	**A 15-year-old male underwent biopsy for a pineal region tumor. The tumor showed sheets of large cells with clear cytoplasm, round nuclei, interspersed lymphocytes and few granulomas. The most useful panel of markers for confirmation of the diagnosis is:**	
	a	SALL4, Low-molecular weight cytokeratin, AFP
	b	KIT, CD30, AFP
	c	Low-molecular weight cytokeratin, Beta-HCG, SALL4
	d	PLAP, SALL4, OCT4
49	**Identify the *wrongly* paired adenohypophyseal cell and transcription factor:**	
	a	Somatotroph - PIT1
	b	Corticotroph - TPIT
	c	Gonadotroph - SF1
	d	Lactotroph - GATA2/3

50	**The diagnostic criteria for CNS WHO grade 3 meningioma include all, *except:***	
	a	Mitotic activity of ≥20/10 high power fields
	b	TERT promoter mutation
	c	Homozygous deletion of CDKN2A and/or CDKN2B
	d	Monosomy of chromosome 22
51	**Which of the following is the most common manifestation of Gorlin syndrome?**	
	a	Cardiac fibroma
	b	Medulloblastoma
	c	Macrocephaly
	d	Basal cell carcinoma
52	**All of the following are markers for myoepithelial cells *except:***	
	a	OLIG2
	b	SOX10
	c	Calponin
	d	Smooth muscle actin
53	**For which of the following molecular biomarker, vemurafenib is used as a targeted therapeutic drug?**	
	a	BCR-ABL1 fusion
	b	BRAF V600 mutation
	c	IDH1 or IDH2 mutation
	d	ROS1 fusion
54	**The most frequent genetic aberration in atypical lipomatous tumor is:**	
	a	t(12;16)(q13;p11)
	b	Ring chromosomes from 12q
	c	Loss of RB1
	d	Monosomy 13
55	**A 15-year-old boy with a lesion involving the tibia presented with nocturnal pain relieved with NSAIDs. What is the most likely radiological feature of this lesion?**	
	a	Osteolytic nidus with a sclerotic rim
	b	Codman's triangle
	c	Onion skin appearance
	d	Fluid-fluid level
56	**True for minimally invasive adenocarcinoma of the lung is:**	
	a	Invasive focus of >5 mm
	b	Can be diagnosed in biopsy samples
	c	If completely resected, it is expected to have 100% disease-free and recurrence-free survival
	d	Generally has mucinous adenocarcinoma morphology
57	**Which of the following favours a diagnosis of thymic squamous cell carcinoma over a lung squamous cell carcinoma?**	
	a	EMA positvity
	b	CD5 positivity
	c	p40 postitivity
	d	PAX8 negativity

58	**Which of the following is true regarding desmoplastic small round cell tumour?**	
	a	Has polyphenotypic differentiation
	b	Is generally MYOD1 positive
	c	Has very good prognosis
	d	Most frequently involves the mediastinum
59	**Which of the following condition has subepidermal bullae?**	
	a	Bullous impetigo
	b	Hailey-Hailey disease
	c	Pemphigus vulgaris
	d	Bullous pemphigoid
60	**The most common etiology for abdominal aortic aneurysm is:**	
	a	Marfan syndrome
	b	Atherosclerosis
	c	Vasculitis
	d	Infection
61	**An infant is diagnosed with a cystic disease of the right kidney. Microscopy of the resection specimen shows primitive tubules, cysts lined by cuboidal cells and immature stroma. What is the diagnosis?**	
	a	Autosomal Dominant Polycystic Kidney Disease
	b	Autosomal recessive polycystic kidney disease
	c	Medullary sponge kidney
	d	Multicystic renal dysplasia
62	**Which of the following is a risk factor for primary mediastinal germ cell tumour?**	
	a	Klinefelter syndrome
	b	Noonan syndrome
	c	Turner syndrome
	d	Patau syndrome
63	**Familial Mediterranean fever is associated with deposition of:**	
	a	ATTR
	b	AA
	c	Agel
	d	Acys
64	**A 4-year-old boy presents with adrenal mass. Histopathology reveals a tumor composed of maturing ganglion cells in a schwannian stroma intermixed with microscopic foci of round cells in neuropil. The former component occupies about 60% of tumor volume. What is the most likely disgnosis?**	
	a	Ganglioneuroblastoma, nodular
	b	Neuroblastoma, differentiating subtype
	c	Ganglioneuroma
	d	Ganglioneuroblastoma, intermixed
65	**Which of the following is true for epithelioid sarcoma?**	
	a	Loss of INI1 protein expression
	b	Chromosome 11q aberration
	c	Most frequently occur in elderly
	d	Negativity for PanCK and EMA

66	**Which of the following is true about Fanconi anaemia?**	
	a	Has loss-of-function mutation of BLM gene
	b	It is an autosomal recessive disorder
	c	Is resistant to crosslinking chemotherapeutic agents
	d	It is usually detected using Sanger sequencing
67	**Which of the following is an essential criterion for diagnosis of Sezary syndrome?**	
	a	An absolute Sézary cell count ≥ 1000/μL
	b	Expanded CD8+ T-cell population with a CD8:CD4 ratio > 10
	c	Erythroderma involving <70% of body surface area
	d	Loss of CD3 expression
68	**Which of the following renal cell carcinoma is inherently aggressive irrespective of WHO/ISUP grading?**	
	a	Collecting duct carcinoma
	b	Clear cell carcinoma
	c	ELOC-mutated RCC
	d	Papillary renal cell carcinoma
69	**Mode of inheritance of Carney Complex is:**	
	a	Autosomal recessive
	b	X-linked recessive
	c	X-linked dominant
	d	Autosomal dominant
70	**Stromal fibrosis in primary myelofibrosis is attributed to secretion of:**	
	a	TGF-α and MMP9
	b	TGF-β and MMP9
	c	TGF-α and MMP1
	d	TGF-β and MMP1
71	**Molecular mechanism underlying Xeroderma pigmentosum is:**	
	a	Double strand break repair defect
	b	DNA mismatch repair defect
	c	Nucleotide excision repair defect
	d	Base excision repair defect
72	**Which of the following can lead to prolonged activated partial thromboplastin time with normal prothrombin time, normal thrombin time, normal fibronogen level and normal platelet count?**	
	a	High molecular weight kininogen deficiency
	b	Factor VII deficiency
	c	Factor XIII deficiency
	d	Acute liver disease
73	**A lesion in a lymph node is composed of large histiocytes. Which of the following favours a diagnosis of Rosai–Dorfman disease?**	
	a	Factor XIIIa positvity
	b	OCT2 positivity
	c	CD1a positivity
	d	ALK positivity

74	**Which of the following is not a feature of SWI/SNF complex-deficient sinonasal carcinoma?**	
	a	Basaloid morphology
	b	Rhabdoid cells
	c	Distinct squamous differentiation
	d	Well-formed tubules
75	**Which of the following is true about primary membranous nephropathy?**	
	a	Generally presents with nephritic syndrome
	b	Absence of immunoglobulin or complement deposits by immunofluorescence
	c	Subepithelial deposits are noted in electron microscopy
	d	Has significant inflammation in the mesangium
76	**Sudden eruption of numerous keratoses is called:**	
	a	Gowers' sign
	b	Kernig's sign
	c	Leser-Trélat sign
	d	Bushke-Olendroff sign
77	**Which of the following is an essential diagnostic criterion for the diagnosis of lymphomatoid granulomatosis?**	
	a	Neutrophils and eosinophils
	b	Classic Reed–Sternberg cells
	c	Well-formed granulomas
	d	Angioinvasion
78	**Usual interstitial pneumonia (UIP) is characterized by:**	
	a	Non-uniform nature and degree of fibrosis
	b	Pigmented alveolar macrophages within respiratory bronchioles
	c	Alveolar spaces filled with mononuclear cells
	d	Dense lymphoid infiltrates with lymphoid follicle formation
79	**Which of the following is not a feature of Multiple endocrine neoplasia (MEN) type 2B?**	
	a	Medullary thyroid carcinoma
	b	Parathyroid hyperplasia
	c	Marfanoid body habitus
	d	Ganglioneuromas
80	**Which of the following isoforms of BCR::ABL1 is not seen in chronic myeloid leukaemia?**	
	a	e9a3
	b	e13a2
	c	e1a2
	d	e14a2
81	**Which of the following pathologic features, if present in a colectomy specimen, favors a diagnosis of ulcerative colitis over Crohn's disease?**	
	a	Skip lesions
	b	Granulomas
	c	Mucosal and submucosal predominant inflammation
	d	Fissure formation

82	**Extraskeletal myxoid chondrosarcoma is characterized by**	
	a	SSX1 gene rearrangement
	b	FOS gene rearrangement
	c	FOXO1 gene rearrangement
	d	NR4A3 gene rearrangement
83	**Which of the following is absent in a mesothelioma?**	
	a	WT1 positivity
	b	D2-40 positivity
	c	BerEP4 positivity
	d	CK5/6 positivity
84	**Which of the following is true for skeletal Ewing sarcoma?**	
	a	Occurs most commonly in children less than 5y of age
	b	Commonly involves the diaphysis of long bones
	c	Fluorescence in situ hybridization (FISH) for EWSR1 gene rearrangement is highly specific for its diagnosis
	d	EWSR1-ETV1 is the most common fusion involved
85	**Which of the following autopsy techniques involves in-situ organ dissection?**	
	a	Technique of R. Virchow
	b	Technique of M. Letulle
	c	Technique of A. Ghon
	d	Technique of C. Rokitansky
86	**In which of the following types of von Willebrand disease, the multimer analysis shows absence of large and intermediate size multimers?**	
	a	1
	b	2A
	c	2N
	d	2M
87	**As per the International Society of Paediatric Oncology (SIOP) staging system for Nephroblastoma, a completely resected tumor infiltrating the inferior vena cava is categorized as:**	
	a	Stage I
	b	Stage III
	c	Stage II
	d	Stage V
88	**Which of the following is not a feature of In-situ follicular B-cell neoplasm?**	
	a	Partial effacement of lymph node architecture
	b	BCL2 and CD10 positivity
	c	Presence of t(14;18)(q32;q21)
	d	Involved germinal centres resemble reactive follicles
89	**Which of the following is a feature of adenoid cystic carcinoma?**	
	a	MAML2 rearrangement
	b	NR4A rearrangement
	c	MYBL1 rearrangement
	d	FLI1 rearrangement

90	**Cytoplasmic crystalline rods on PAS-diastase staining is present in:**	
	a	Superficial angiomyxoma
	b	Phosphaturic mesenchymal tumor
	c	Epithelioid sarcoma
	d	Alveolar soft part sarcoma
91	**Normal Merkel cells are positive for:**	
	a	Synaptophysin
	b	TTF1
	c	S100
	d	CD45
92	**The most common genetic alterations in invasive mucinous adenocarcinoma of lung is:**	
	a	EGFR mutation
	b	TP53 mutations
	c	ALK gene fusion
	d	KRAS mutation
93	**Which among the following subtypes of endometrial endometrioid carcinoma has excellent prognosis?**	
	a	MMR-deficient
	b	POLE-ultramutated
	c	p53-mutant
	d	No specific molecular profile
94	**Which of the following ovarian carcinomas is most likely to show the immunophenotype: WT1 negative, PR negative, Napsin A positive?**	
	a	Clear cell carcinoma
	b	Endometrioid carcinoma
	c	Mucinous carcinoma
	d	Serous carcinoma
95	**Which of the following is true for diffuse pulmonary lymphangiomatosis?**	
	a	Has HMB45-positive spindle cells
	b	Generally presents in elderly
	c	Has poor prognosis
	d	Has distinct cytological atypia
96	**ETV6::RUNX1 fusion in B-lymphoblastic leukaemia/lymphoma has**	
	a	Favourable prognosis
	b	Unfavourable prognosis
	c	Intermediate prognosis
	d	No prognostic significance
97	**Which of the following is associated with prepubertal-type teratomas of the testis?**	
	a	Associated with tubular atrophy and sclerosis in the non-neoplastic testis
	b	Can have stroma with high mitotic activity
	c	Generally occur as a part of mixed germ cell tumor
	d	Diploid karyotype

98	**Congenital adrenal hyperplasia is most commonly caused by**	
	a	17α-hydroxylase deficiency
	b	21-hydroxylase deficiency
	c	11β-hydroxylase deficiency
	d	P450 oxidoreductase deficiency
99	**An autopsy was performed for a case of myocardial infarction. Which of the following is the method of choice for dissecting the heart specimen?**	
	a	Short-axis method
	b	Long-axis method
	c	Window method
	d	Four chamber method
100	**Which one of the following is an essential diagnostic criterion for the diagnosis of acute monocytic leukaemia?**	
	a	≥ 60% of the leukaemic cells are monocytes and their precursors
	b	≥ 20% of the leukaemic cells are monocytes and their precursors
	c	≥ 80% of the leukaemic cells are monocytes and their precursors
	d	≥ 50% of the leukaemic cells are monocytes and their precursors