

# AUJ

## PROVISIONAL ANSWER KEY (CBRT)

Name of the post	Pathologist, Class-1, (ESIS)
Advertisement No.	114/2020-21
Preliminary Test held on	20-07-2021
Question No.	001 -200 (Concern Subject)
Publish Date	22-07-2021

Last Date to Send Suggestion(s) 29-07-2021

THE LINK FOR ONLINE OBJECTION SYSTEM WILL START FROM 23-07-2021; 04:00 PM ONWARDS

## Instructions / સૂચન

**Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -**

- (1) All the suggestion should be submitted through **ONLINE OBJECTION SUBMISSION SYSTEM** only. Physical submission of suggestions will not be considered.
- (2) Question wise suggestion to be submitted in the prescribed format (proforma) published on the website / online objection submission system.
- (3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website / online objection submission system. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.
- (4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.
- (5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet /response sheet and submitted suggestions are differed.
- (6) Objection for each question should be made on separate sheet. Objection for more than one question in single sheet shall not be considered.

**ઉમેદવારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં**

- (1) ઉમેદવારે વાંધા-સૂચનો ફક્ત ઓનલાઇન ઓબ્જેક્શન સબમીશન સીસ્ટમ દ્વારા જ સબમીટ કરવાના રહેશે. રૂબરૂ અથવા ટપાલ દ્વારા આયોગની કચેરીએ મોકલવા આવેલ વાંધા-સૂચનો ધ્યાને લેવામા આવશે નહીં જેની ખાસ નોંધ લેવી.
- (2) ઉમેદવારે વાંધા-સૂચનો રજૂ કરવા વેબસાઇટ / ઓનલાઇન ઓબ્જેક્શન સબમીશન સીસ્ટમ પર પ્રસિધ્ધ થયેલ નિયત નમૂનાનો જ ઉપયોગ કરવો.
- (3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઇટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.
- (4) માસ્ટર પ્રશ્નપત્રમાં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચનો ધ્યાને લેવામાં આવશે નહીં.
- (5) ઉમેદવારે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદવારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઈએ. ઉમેદવારે સૂચવેલ જવાબ અને ઉત્તરવહીનો જવાબ ભિન્ન હશે તો ઉમેદવારે રજૂ કરેલ વાંધા-સૂચનો ધ્યાનમા લેવાશે નહીં.
- (6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચનો પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

**Website link for online objection submission system : [http://150.129.165.5/GPSC\\_Suggestion/](http://150.129.165.5/GPSC_Suggestion/)**

001. Which of the following ovarian tumors is Associated with Gorlin syndrome?  
 (A) Adult granulosa cell tumor (B) Fibroma  
 (C) Sertoli–Leydig cell tumor (D) Sex cord tumor with annular tubules
002. A 42-year-old woman presents with purple-colored polygonal-shaped papules on the vulva and wrist. A diagnosis of lichen planus is being entertained. All of the following findings on biopsy would support this diagnosis except  
 (A) Band-like dermal chronic inflammatory infiltrate  
 (B) Collections of eosinophils  
 (C) Colloid bodies  
 (D) Dyskeratosis of basal keratinocytes
003. Which of the following vaginal lesions is most closely associated with a history of diethylstilbestrol (DES) exposure?  
 (A) Clear cell adenocarcinoma (B) Endometrioid adenocarcinoma  
 (C) Mesonephric adenocarcinoma (D) Mucinous adenocarcinoma
004. Loss of functional mutation of STK11 gene is seen in  
 (A) Peutz-Jegher’s syndrome (B) Cowden syndrome  
 (C) Tuberous sclerosis (D) Juvenile polyposis
005. Predecidual change in the endometrium, limited to surrounding spiral arterioles, is characteristic of which secretory day?  
 (A) Day 21 (B) Day 22  
 (C) Day 23 (D) Day 24
006. All of the following are pregnancy-related changes of the uterus except  
 (A) Arias–Stella reaction (B) Decidual cells  
 (C) Intermediate trophoblasts (D) Papillary syncytial metaplasia
007. Tennis Racket cells are seen in :  
 (A) Rhabdomyoma (B) Rhabdomyosarcoma  
 (C) Histiocytoma (D) Eosinophilic granuloma
008. All of the following are microscopic features associated with a partial hydatidiform mole except  
 (A) Focal syncytiotrophoblastic hyperplasia  
 (B) Generalized hydropic villous change  
 (C) Nucleated red blood cells in villous capillaries  
 (D) Scalloped villous contours
009. All of the following are features associated with HELLP syndrome except  
 (A) Elevated liver function tests (B) Hemolysis  
 (C) Low platelet count (D) Placenta accreta
010. A 61-year-old man had severe abdominal pain and bloody diarrhea for the past day. On physical examination, his abdomen is diffusely tender, and bowel sounds are absent. Abdominal plain films show no free air. Laboratory studies show a normal CBC and normal levels of serum amylase, lipase, and bilirubin. His Hgb A1c is 10%. He develops shock. A year ago he had an acute myocardial infarction. Which of the following lesions is most likely to be found in this man?  
 (A) Appendicitis (B) Cholecystitis  
 (C) Pancreatitis (D) Intestinal infarction

011. A study of children living in rural area reveals a high prevalence of iron deficiency anemia. Stool samples are positive for occult blood. Pruritus of the skin of their feet as well as cough are additional findings in many of these children. Which of the following parasitic infestations is the most likely cause for these findings?
- (A) **Ancylostoma duodenale** (B) **Ascaris lumbricoides**  
 (C) **Cryptosporidium parvum** (D) **Enterobius vermicularis**
012. Mutation in E-cadherin gene or alteration of its gene expression predisposes to:
- (A) **Hereditary diffuse gastric carcinoma** (B) **Intestinal-type adenocarcinoma**  
 (C) **Squamous carcinoma** (D) **Hepatoid-type adenocarcinoma**
013. 'Nutmeg liver' is seen in
- (A) **Portal cirrhosis** (B) **Biliary cirrhosis**  
 (C) **Chronic venous congestion of liver** (D) **Fatty liver**
014. Mallory bodies contain:
- (A) **Vimentin** (B) **Cytokeratin**  
 (C) **Collagen** (D) **Desmin**
015. The following are true attributes of hepatitis B infection except:
- (A) **Infants develop chronic infections**  
 (B) **HBc Ag in serum is indicative of active infection**  
 (C) **Can cause hepatocellular carcinoma**  
 (D) **Interferons are used for treatment**
016. Bronze diabetes is seen in:
- (A) **Wilson's disease** (B) **Sarcoidosis**  
 (C) **Lead intoxication** (D) **Hemochromatosis**
017. In the testis intratubular germ cell neoplasia is seen -
- (A) **Seminomas** (B) **Adult Spermatocytic seminoma**  
 (C) **Teratoma** (D) **Peadiatric Yolk sac Tumor**
018. Histological variants of carcinoma breast with better prognosis include all except:
- (A) **Mucinous carcinoma** (B) **Medullary carcinoma**  
 (C) **Inflammatory carcinoma** (D) **Tubular carcinoma**
019. Discohesive infiltrating tumor cells with minimal desmoplasia seen in histopathological examination of which carcinoma of the breast:
- (A) **Infiltrating duct carcinoma** (B) **Fibroadenoma**  
 (C) **Tubular carcinoma** (D) **Lobular carcinoma**
020. A 17 year old female presents with a history of fever and headache and now develops altered sensorium. CT scan shows basal exudates with meningeal enhancement. The CSF is most likely to show
- (A) **Lymphocytic pleocytosis, low sugar, low protein**  
 (B) **Polymorphonuclear pleocytosis, normal sugar, high protein**  
 (C) **Lymphocytic pleocytosis, low sugar, high protein**  
 (D) **Polymorphonuclear pleocytosis, low sugar, high protein**

021. Which central nervous system tumor is seen in the setting of tuberous sclerosis?  
 (A) Pilocytic astrocytoma (B) Pilomyxoid astrocytoma  
 (C) Pleomorphic xanthoastrocytoma (D) Subependymal giant cell astrocytoma
022. Albumino-cytologic dissociation occurs in cases of:  
 (A) Guillain Barre syndrome (B) TB meningitis  
 (C) Motor neuron disease (D) Demyelinating disorder
023. Cytogenetics for synovial cell sarcoma is:  
 (A) t (X : 18) (B) t (17, 9)  
 (C) t (9, 22) (D) t (11, 14)
024. Which of the following is associated with adult polycystic kidney disease?  
 (A) Berry aneurysms of Circle of Willis (B) Saccular aneurysms of aorta  
 (C) Fusiform aneurysms of aorta (D) Leutic aneurysms
025. Which of the following is Not associated with thymoma?  
 (A) Syndrome of inappropriate antidiuretic hormone secretion (SIADH)  
 (B) Myasthenia gravis  
 (C) Polymyositis  
 (D) Hypogammaglobinemia
026. HLA is located on:  
 (A) Long arm of chromosome 6 (B) Long arm of chromosome 3  
 (C) Short arm of chromosome 6 (D) Short arm of chromosome
027. All of the following statements are true about Wiskott Aldrich syndrome except?  
 (A) It is an autosomal recessive disorder (B) Marked vulnerability to recurrent infection  
 (C) Thrombocytopenia is seen (D) Patient presents with eczema
028. In Wilm's tumor the following leads to emergence of resistance to chemotherapy:  
 (A) Nephrogenic rests (B) Monophasic morphology  
 (C) Anaplasia (D) Capsular infiltration
029. Michaelis Gutmann bodies are seen in  
 (A) Xanthogranulomatous pyelonephritis (B) Malakoplakia  
 (C) Nail patella syndrome (D) Tubercular cystitis
030. Bence Jones proteins are:  
 (A) Light chain (B) Heavy chain  
 (C) Medium chain (D) All
031. The pathogenesis of cerebral malaria includes:  
 (A) Cytoadhesion and Sequestration of parasitized RBCs within the vessels.  
 (B) Sporozoites are sequestered in blood  
 (C) Reticulocytopenia  
 (D) Also caused by P. vivax
032. Which of the following is the characteristic feature of adult respiratory distress syndrome?  
 (A) Diffuse Alveolar Damage (B) Interstitial tissue inflammation  
 (C) Alveolar exudates (D) Interstitial fibrosis

033. Which of the following would most likely be observed in the lung during an autopsy of a 2-week-old infant who died of neonatal respiratory distress syndrome?
- (A) Alveoli filled with neutrophils (B) Dense fibrosis of the alveolar walls  
(C) Enlarged air space (D) Hyaline membranes and collapsed alveoli
034. Hypercalcemia is observed in one of the following lung carcinoma:
- (A) Squamous cell carcinoma (B) small cell carcinoma  
(C) Adenocarcinoma (D) Bronchoalveolar carcinoma
035. Aschoff's nodules are seen in:
- (A) Subacute bacterial endocarditis (B) Libman-Sacks endocarditis  
(C) Rheumatic carditis (D) Non-bacterial thrombotic endocarditis
036. Autopsy finding after 12 hrs in a case of death due to M.I. is
- (A) Caseous necrosis (B) Coagulative necrosis  
(C) Fat necrosis (D) Liquefactive necrosis
037. The presence of aberrant nuclear expression of TFE3 on IHC is seen in
- (A) Epithelioid Sarcoma (B) Alveolar soft part sarcoma  
(C) Rhabdomyosarcoma (D) Ewing's Sarcoma
038. Which of the following is the commonest histological finding in benign hypertension?
- (A) Proliferative end arteritis (B) Necrotizing arteriolitis  
(C) Hyaline arteriosclerosis (D) Cystic medial necrosis
039. Diabetes is diagnosed by which of the following criteria?
- (A) The level of fasting glucose is  $\geq 100$  mg/dL and that of postprandial glucose is  $\geq 140$  mg/dL  
(B) The level of fasting glucose is  $> 126$  mg/dL and that of Random plasma glucose is  $> 200$  mg/dL  
(C) The level of plasma insulin is  $\geq 6$  IU/dL  
(D) The HbA1c level is  $\geq 5.5\%$
040. Basic pathology in cystic fibrosis is
- (A) Defect in the transport of chloride across epithelia  
(B) Defect in the transport of sodium across epithelia  
(C) Defect in the transport of potassium across epithelia  
(D) Defect in the transport of bicarbonate across epithelia
041. Calcitonin is a marker of thyroid:
- (A) Papillary carcinoma (B) Medullary carcinoma  
(C) Anaplastic carcinoma (D) Adenocarcinoma
042. A 51-year-old man with a history of recurrent calcium-containing renal stones presents to the emergency room with excruciating flank pain and blood in the urine. This patient is likely to have which of the following underlying disorders?
- (A) Anemia of chronic disease (B) Chronic Proteus infection  
(C) Hyperparathyroidism (D) Hyperaldosteronism
043. Most important histopathological indicator of malignancy in Pheochromocytoma is:
- (A) Pleomorphism (B) High mitotic activity  
(C) Vascular invasion (D) Metastasis

044. Anti ds-DNA antibodies are commonly seen in:  
 (A) SLE  (B) Scleroderma  
 (C) PAN  (D) Dermatomyositis
045. CD-99 is for:  
 (A) Ewing's sarcoma  (B) SLL  
 (C) Dermatofibroma  (D) Malignant histiocytic sarcoma
046. Dystrophin gene mutation leads to:  
 (A) Myasthenia gravis  (B) Motor neuron disease  
 (C) Poliomyelitis  (D) Duchenne muscular dystrophy
047. Mikulicz cells are seen in  
 (A) Rhinosporidiosis  (B) Rhinoscleroma  
 (C) Myospherulosis  (D) Mikulicz disease
048. Prion proteins are implicated in the etiology of:  
 (A) Spongiform encephalopathy  (B) Viral encephalitis  
 (C) Perivenous encephalomyelitis  (D) Progressive multifocal leucoencephalopathy
049. Phosphorylation of retinoblastoma gene:  
 (A) Inhibits cell replication  (B) Promotes cellular quiescence  
 (C) Stops cell cycle progression  (D) Promotes cell division
050. All are autosomal dominant inherited syndromes except:  
 (A) Polycystic kidney disease  (B) Cystic fibrosis  
 (C) Tuberous sclerosis  (D) Familial polyposis coli
051. Disseminated intravascular coagulation (DIC) is characterised by all of the following except:  
 (A) Thrombocytopenia  (B) Microangiopathic haemolytic anaemia  
 (C) Presence of FDPs in the blood  (D) Normal prothrombin time
052. Gum hypertrophy is a feature of the following FAB type of AML:  
 (A) FAB type M1  (B) FAB type M2  
 (C) FAB type M3  (D) FAB type M4
053. Isotretinoin treatment is effective in which acute leukemia:  
 (A) ALL  (B) AML-M2  
 (C) AML-M6  (D) AML-M3
054. Cytoplasmic anti-neutrophil cytoplasmic antibodies (C-ANCA/PR3-ANCA) is seen in:  
 (A) Polyarteritis nodosa  (B) Wegener's granulomatosis  
 (C) Leucocytoclastic vasculitis  (D) Giant cell arteritis
055. In Kaposi's sarcoma, the lesions are more extensively distributed at different body sites and visceral organs in:  
 (A) Classic (European) type  (B) African (Endemic) type  
 (C) AIDS-associated  (D) Renal transplant-associated
056. Vegetations of the following types of endocarditis are generally not friable except that of:  
 (A) Rheumatic endocarditis  (B) Libman-Sacks endocarditis  
 (C) Subacute bacterial endocarditis  (D) Non-bacterial thrombotic endocarditis

057. Which of the following mutation is being used to develop targeted molecular therapy in non-small cell cancer of lung?  
(A) EGFR mutation (B) p53 mutation  
(C) K-RAS mutation (D) p16 mutation
058. Sebaceous carcinoma occurs most commonly at:  
(A) Axilla (B) Groin  
(C) Eyelid (D) Scalp
059. Malignant salivary gland tumour that commonly spreads along the nerves is:  
(A) Malignant mixed salivary tumour (B) Mucoepidermoid carcinoma  
(C) Acinic cell carcinoma (D) Adenoid cystic carcinoma
060. On electron microscopy, Basement membrane material in membranous glomerulonephritis appears as:  
(A) Dense deposits (B) Spikes protruding from GBM  
(C) Double-contoured (D) Tram-track
061. Which of the following testicular tumour is most radiosensitive?  
(A) Seminoma (B) Embryonal carcinoma  
(C) Yolk sac tumour (D) Immature teratoma
062. Which of the following feature is not used in modified Bloom- Richardson grading system for breast cancer?  
(A) Tubule formation (B) Nuclear pleomorphism  
(C) Mitotic count (D) Tumour necrosis
063. Neuroblastoma has the following features except:  
(A) It arises from primitive neural crest cells  
(B) Median age at the diagnosis is 18 months  
(C) Germline mutation in anaplastic lymphoma kinase gene  
(D) The tumour cells are highly pleomorphic and large.
064. All of the following statements are true regarding Leprosy except  
(A) M. Leprae secretes no toxin  
(B) M. Leprae proliferates best at 2 to 4°C  
(C) Neural involvement dominates tuberculoid leprosy  
(D) Vital organs and CNS are rarely affected.
065. Which of the following statements is true regarding Micro-RNA (mi - RNA)  
(A) Encodes protein  
(B) Regulates gene by Posttranscriptional silencing of gene expression  
(C) Restrict RNA polymerase access to coding gene  
(D) Facilitate transcript factor binding and promote gene activation
066. All of the following are the steps involved in the conventional Polymerase chain reaction (PCR) except -  
(A) Synthesis of oligonucleotide primers  
(B) Heat denaturation of the DNA  
(C) Annealing of the primers to their complementary sequences  
(D) Real- time monitoring of the amplification process

067. Fixative of choice for ultrastructural evaluation of the tissue by electron microscopy is -  
 (A) 4% glutaraldehyde (B) Formaldehyde  
 (C) Potassium dichromate (D) Picric acid
068. Fontana–Masson stain is use to demonstrate  
 (A) Hemosiderin (B) Mucin  
 (C) Melanin (D) calcium
069. Which of the following statement is not true regarding ALK+ anaplastic large cell lymphoma (ALCL) ?  
 (A) Microscopically ,cells with horseshoe nuclei are seen  
 (B) Tumor cells are CD 30 POSITIVE  
 (C) Tumor cells are CD 20 POSITIVE  
 (D) Much more favourable prognosis than ALK Negative ALCL
070. Which of the following statement is not true regarding verrucous carcinoma?  
 (A) It is also called as Ackerman tumor  
 (B) Extremely well differentiated microscopic appearance  
 (C) Commonly metastasizes  
 (D) Swollen and voluminous rete pegs that extend into the deeper tissue
071. \_\_\_\_\_ is called as Guardian of the genome  
 (A) p53 (B) p14  
 (C) p41 (D) WNT
072. Translocation seen in Mantle cell lymphoma  
 (A) t (11;14) (B) t (8;14)  
 (C) t (8;21) (D) t (9;22)
073. The size of the red blood cells is measured by:  
 (A) MCV (B) MCHC  
 (C) ESR (D) MCH
074. Polycythemia is seen in all of the following cancer except  
 (A) Renal Carcinoma (B) Cerebellar haemangioma  
 (C) Hepatocellular carcinoma  (D) Bronchogenic Carcinoma
075. ‘Warm’ auto antibodies are seen in:  
 (A) SLE (B) Mycoplasma  
 (C) Syphilis (D) Varicella
076. Which of the following is most common primary tumor of the adult heart ?  
 (A) Myxoma (B) Fibroma  
 (C) Lipoma (D) Rhabdomyoma
077. Schilling test is used for identification of which of the following?  
 (A) Fat absorption (B) Vit K absorption  
 (C) Vitamin B12 absorption (D) Vitamin D absorption
078. True regarding prothrombin and D- dimer in pregnancy  
 (A) Both are increased (B) Both are decreased  
 (C) Only D- dimer is increased (D) Only Prothrombin is increased



079. Following is/ are, true regarding stress related mucosal ulcer in stomach  
 (A) Stress ulcers are most common in Shock  
 (B) Curling ulcers are ulcers occurs in proximal duodenum, after burn injury.  
 (C) Cushing ulcers occurs in gastric, duodenal and oesophageal locations after intracranial injury  
 (D) All of the above
080. H.Pylori – Associated Gastritis is most commonly located at ?  
 (A) Antrum (B) Body  
 (C) Pylorus (D) Cardiac end
081. Duodenal villous atrophy seen in  
 (A) Crohn's disease (B) Ulcerative Colitis  
 (C) Celiac Disease (D) Cystic Fibrosis
082. Distended foamy Macrophages' filled with PAS positive granules in the Lamina Propria is characteristic feature of –  
 (A) Whipple's Disease (B) Abeta Lipoproteinemia  
 (C) Crohn's Disease (D) Ulcerative Colitis
083. Loss of the p53 gene on chromosome 17p occurs at which stage of the adenoma–carcinoma sequence in colorectal cancer?  
 (A) Early adenoma → intermediate adenoma  
 (B) Intermediate adenoma → late adenoma  
 (C) Late adenoma → carcinoma  
 (D) Normal epithelium → carcinoma
084. With which of the following viral hepatitis infection in pregnancy, maternal mortality is highest?  
 (A) Hepatitis A (B) Hepatitis B  
 (C) Hepatitis C (D) Hepatitis E
085. Thorotrast can cause  
 (A) Hepatocellular carcinoma (B) CholangioCarcinoma  
 (C) Angiosarcoma (D) All of the Above
086. The term “sclerosis” refers to:  
 (A) Accumulation of eosinophilic PAS-positive, silver-negative structureless material that stains red with trichrome stain  
 (B) Accumulation of eosinophilic PAS-positive, silver-positive structureless material that stains blue-green with trichrome stain  
 (C) Accumulation of eosinophilic PAS-negative, silver-negative fibrillar material that stains blue-green with trichrome stain  
 (D) Accumulation of fibrillar material with characteristic configuration
087. Squamous cell carcinoma of bladder is associated with which of the following PARASITE?  
 (A) Schistosomiasis (B) Ascariasis  
 (C) Malaria (D) All of the above
088. Which of the following best describes luminal A type breast cancers ?  
 (A) Moderately differentiated HER2 positive invasive ductal carcinoma  
 (B) Poorly differentiated triple negative (ER, PR, HER2) invasive ductal carcinoma  
 (C) Poorly differentiated triple positive (ER, PR, HER2) invasive ductal carcinoma  
 (D) Well-differentiated ER-positive invasive ductal carcinoma

089. Which of the following diseases is not a cause of indirect hyperbilirubinemia?  
 (A) Rotor's syndrome (B) Crigler Najjar syndrome  
 (C) Gilbert syndrome (D) Hereditary spherocytosis
090. In cirrhosis of liver collagen is laid down by  
 (A) Hepatocytes (B) Hepatic stellate cells  
 (C) Biliary epithelial cells (D) Kupffer cells
091. Crystalloids of Reinke are present in which testicular tumour -  
 (A) Leydig cell tumour (B) Yolk cell tumour  
 (C) Embryonal tumour (D) Seminoma
092. All of the following statements Regarding HPV vaccine are true Except-  
 (A) Now recommended for all girls and boys by 11 to 12 years age  
 (B) It protects against oncogene HPV types 16 and 18  
 (C) Vaccine gives protection up to 10 month only.  
 (D) Can be given to Men and Women up to 26 years of age.
093. The difference between leukemia and leukemoid reaction is done by:  
 (A) Total leukocyte count (B) Leucocyte alkaline phosphatase  
 (C) Erythrocyte sedimentation rate (D) Immature cells
094. Brown tumor of bone is seen in  
 (A) Hyperparathyroidism (B) Hypoparathyroidism  
 (C) Hyperthyroidism (D) Hypothyroidism
095. Which of the following plays a role in gene editing?  
 (A) Gene Xper (B) CRISPR  
 (C) Health care app (D) Big data
096. Most common form of DNA variation is  
 (A) Single Nucleotide Polymorphism (B) Copy Number Variation  
 (C) Transpos (D) Mutation
097. Metaplasia arises from reprogramming of  
 (A) Stem cell (B) Stellate cells  
 (C) Squamous cells (D) Columnar cells
098. Light brown perinuclear pigment seen on H&E staining of the cardiac muscle fibres in the grossly normal appearing heart of an 83 year old man at autopsy is due to deposition of  
 (A) Hemosiderin (B) Lipochrome  
 (C) Cholesterol metabolite (D) Anthracotic pigment
099. The proto oncogene associated with Burkit's lymphoma?  
 (A) BRAF (B) ABL  
 (C) MYC (D) HGF
100. Werner diseases is associated with?  
 (A) Intestinal polyp (B) Multiple cancer  
 (C) Lax joints (D) Premature ageing

101. Which of the following is an Opsonin?  
 (A) C3a (B) C3b  
 (C) C5a (D) LTC4
102. Primary Granule of Neutrophil has  
 (A) Proteinase3 (B) Alkaline Phosphate  
 (C) MPO( Myeloperoxidase) (D) Lactoferrin
103. TNF and IL1 is produced by  
 (A) Neutrophils (B) Monocytes  
 (C) Lymphocytes (D) Activated Macrophages
104. Stellate granuloma are seen in  
 (A) Cat Scratch diseases (B) Sarcoidosis  
 (C) LGV (D) Histoplasmosis
105. Durck Granuloma Is seen in  
 (A) Congenital syphilis (B) Cat scratch disease  
 (C) Histoplasmosis (D) Cerebral Malaria
106. In wound injury sequence of appearance of cells is  
 (A) Macrophages → platelet → neutrophil → fibroblast  
 (B) Neutrophil → Macrophages → Platelet → Fibroblast  
 (C) Platelet → Neutrophil → Macrophages → Fibroblast  
 (D) Platelet → Macrophages → Neutrophil → Fibroblast
107. Virchows triad for thrombosis include all except  
 (A) Endothelial injury (B) Stasis  
 (C) Platelet aggregation (D) Hypercoagulability
108. White infarcts are seen in all of the following organs except  
 (A) Lung (B) Heart  
 (C) Spleen (D) Kidney
109. A 20 year male, present with mental retardation, large mandible, large everted ears and large testes. What is the most likely diagnosis ?  
 (A) Down Syndrome (B) Patau Syndrome  
 (C) Fragile X Syndrome (D) Klinefilter Syndrome
110. The Best Suited nucleated cell for chromosomal study  
 (A) Polymorphs (B) Lymphocytes  
 (C) Epithelial cell (D) Langerhan's cell
111. Banding technique most commonly employed for cytogenetic analysis  
 (A) G banding (B) Q banding  
 (C) R banding (D) C banding
112. A couple, with family history of beta thalassemia major in a distant relative, has come for counselling. The husband has HbA2 of 4.8 % and the wife has HbA2 of 2.3%. The risk of having a child with beta thalassemia major is  
 (A) 50% (B) 25%  
 (C) 5% (D) 0%

113. Known gene loci can be diagnosed by  
 (A) FISH (B) Comparative gene hybridization  
 (C) PCR (D) Chromosomal painting
114. Characteristic pathologic features of intraductal papillary mucinous neoplasms (IPMN) of the pancreas include all of the following EXCEPT:  
 (A) Activating K-ras point mutations and alterations of tumor suppressor genes of p53, SMAD4/DPC4, and p16/CDKN2A  
 (B) Survival rate worse than ductal adenocarcinoma  
 (C) More frequent occurrence in males than females  
 (D) Spectrum of biologic behavior from benign, borderline, to malignant
115. Micro array is  
 (A) Study of multiple genes (B) Study of disease  
 (C) Study of organisms (D) Study of Blood Group
116. Which of the following have decreased osmotic fragility?  
 (A) Hereditary Spherocytosis (B) Hereditary elliptocytosis  
 (C) Hereditary xerocytosis (D) Hereditary stomatocytosis/hydrocytosis
117. Typical dominant Hereditary Spherocytosis is most commonly caused by deficiency of:  
 (A) Ankyrin (B) Band 3  
 (C) Spectrin (D) Protein 4.2
118. Membrane rigidity and fragility can be measured by:  
 (A) Osmocytometer (B) Spherocytometer  
 (C) Ektacytometer (D) Viscometer
119. Which of the following may constitute high-risk during surgery?  
 (A)  $\beta$ -Thalassemia minor  (B) Hb S homozygous  
 (C) Hb D Punjab (D) Hb E trait
120. Hb E is seen most often in:  
 (A) Assam (B) Punjab  
 (C) Nagpur (D) Jaipur
121. A 6 month old untransfused child presented with lethargy, failure to thrive and looking pale. CBC is showing Hb of 5.6, MCV-58 fl and peripheral blood picture showing microcytic hypochromic red cells, target cells and anisopoikilocytosis. Hb HPLC is showing Hb F of 100%. The most likely diagnosis is:  
 (A)  $\alpha$  thalassemia  
 (B)  $\delta\beta$  thalassemia  
 (C)  $\beta$  thalassemia major  
 (D) HPFH ( Heredetary Persistence of Fetal Hemoglobin)
122. The most common infection in Hemochromatosis is:  
 (A) *Vibrio vulnificus* (B) *Staph. aureus*  
 (C) *Yersinia enterocolitica* (D) *Salmonella*
123. The most common cause of beta thalassemia is:  
 (A) Point mutation (B) Insertion  
 (C) Deletion (D) All are equally distributed

124. Most common cause of iron deficiency in India is nutritional. Which of the following maybe used to treat iron deficiency?
- (A) Ferric sulphate (B) Desferrioxamine  
 (C) Ferric gluconate (D) Erythropoietin
125. A 49-year-old man has had increasing fatigue for the past 4 months. On physical examination he has massive splenomegaly but no lymphadenopathy. Laboratory studies show a Hgb of 10.1 g/dL, Hct 30.3%, MCV 90 fL, WBC count 1600/microliter, and platelet count 48,000/microliter. Examination of his peripheral blood smear shows increased numbers of peripheral blood lymphocytes containing Tartrate-resistant acid phosphatase. Immunostain shows annexin A 1 expression. Which of the following is the most likely diagnosis?
- (A) Chronic lymphocytic leukemia (B) HTLV-1 infection with leukemia  
 (C) Hairy cell leukemia (D) Gaucher disease
126. A 44-year-old man has noted a change in the appearance of his face over the past 7 months. On physical examination his facial skin is thickened and reddened. A punch biopsy of skin is performed and on microscopic examination shows infiltration by neoplastic T-lymphocytes that are CD4 positive. Which of the following is the most likely diagnosis?
- (A) Hodgkin lymphoma  (B) Mycosis fungoides  
 (C) Burkitt lymphoma (D) Acute lymphocytic leukemia
127. Which of the following blood component is stored at 20–24°C?
- (A) Packed red blood cells  (B) Platelets  
 (C) Fresh frozen plasma (D) Cryoprecipitate
128. Use of leukocyte filter during blood transfusion can prevent all of the following, except:
- (A) CMV( Cytomegalo virus ) infection  
 (B) HCV ( Hepatitis C Virus ) transmission  
 (C) Febrile non–hemolytic transfusion reaction  
 (D) Reduce the risk of alloimmunization
129. Cryoprecipitate contains all of the following, except:
- (A) vWF (B) Factor VIII  
 (C) Fibrinogen  (D) Factor IX
130. Which of the following situation will lead to intravascular hemolysis?
- (A) Group O RBC to Group A recipient (B) Group O RBC to Group AB recipient  
 (C) Rh +ve RBC to Rh -ve recipient  (D) Group A RBC to group O recipient
131. The Duffy blood group system is functionally associated with:
- (A) Invasion by *P. falciparum* (B) Red cell urea transporter  
 (C) Maintenance of membrane integrity  (D) Invasion by *P. vivax*
132. Administration of 500 IU of anti-D is sufficient prophylaxis for future hemolytic disease of the newborn will cover a bleed of:
- (A) 2 ml  (B) 4 ml  
 (C) 6 ml (D) 8 ml
133. In Thrombotic Thrombocytopenic Purpura (TTP) which of the following is true?
- (A) PT is prolonged (B) APTT is prolonged  
 (D) Both PT and APTT are normal

134. Falsely low platelets (pseudothrombocytopenia) is seen in all Except:  
 (A) Blood sample collected in EDTA (B) Presence of giant platelets  
 (C) Multiple myeloma (D) Heparin
135. True about Haemovigilance all except  
 (A) Haemovigilance is a set of surveillance procedures  
 (B) The Haemovigilance Programme of India (HvPI) was launched on 10th December, 2012 in the country.  
 (C) It is an important for prevention of adverse effect of vaccine  
 (D) It is an important tool for improving safe blood transfusion practices in a country.
136. Bombay blood group contains?  
 (A) Anti H (B) Anti A, Anti B , Anti H  
 (C) Anti A, Anti B (D) H antibody
137. The major compatibility (Major cross Match) test includes, testing of -  
 (A) Donor's red cells and Recipients Serum (B) Donor's serum and Recipients red cell  
 (C) Donor's serum and Recipients serum (D) Donor's red cell and Recipients red cell
138. Granulocyte transfusion is recommended when neutrophils count is less than  
 (A) 2000/ mm<sup>3</sup> (B) 500/ mm<sup>3</sup>  
 (C) 1000/ mm<sup>3</sup> (D) 1500/ mm<sup>3</sup>
139. Which of the following is NOT a major complication of massive blood transfusion ?  
 (A) Hypokalemia (B) Hypothermia  
 (C) Hypocalcaemia (D) Hypomagnesia
140. How long can blood be stored with CPD-A 1  
 (A) 21 Days (B) 28 Days  
 (C) 35 Days (D) 42 Days
141. Rusty sputum is characteristically seen in:  
 (A) Bronchiectasis (B) Trauma to the lung  
 (C) Pneumococcal pneumonia (D) Carcinoma lung
142. Amoebic dysentery is caused by:  
 (A) Entamoeba histolytica (B) Ascaris lumbricoides  
 (C) Trichuris trichiura (D) Hookworm
143. In a normal person, Thyroid stimulating hormone is synthesized by:  
 (A) Anterior Pituitary (B) Posterior Pituitary  
 (C) Both (D) Adrenal gland
144. false about neonatal hypothyroidism  
 (A) Prevalence of hypothyroidism in newborns is estimated from 1 in 3000 to 1 in 5000.  
 (B) Measurement of T4 and TSH is used for screening  
 (C) Screening can be performed by using dry blood spots or cord serum.  
 (D) Measurement of only T4 is used for screening.
145. Biochemical marker of Bone Formation  
 (A) Pyridinoline (B) Tartarate-resistant acid phosphatase (TRAP)  
 (C) Free lysyl-pyridinoline (D) Bone specific Alkaline phosphatase

146. Specific Biochemical Cardiac marker is  
 (A) cTn I (Cardiac Troponin I) (B) Myoglobin  
 (C) Creatine kinase-MM (D) LDH
147. Which is the anticoagulant of choice for biochemical estimation of PT/INR (Prothrombin time) -  
 (A) EDTA (B) Oxalate- fluoride mixture  
 (C) Heparin (D) Citrate
148. Which of the following is not a Point of care test (POT)?  
 (A) ABG (Arterial Blood Gas) analysis (B) Plasma electrolytes  
 (C) Plasma Glucose (D) Plasma Proteins
149. Formula to calculate percentage coefficient of variance (CV) –  
 (A)  $CV = (SD / MEAN) \times 100$  (B)  $CV = (Mean / SD) \times 100$   
 (C)  $CV = SD / (100 - Mean)$  (D)  $CV = Mean / SD$
150. RFT (Renal function test) includes measurement of -  
 (A) Blood Urea Nitrogen (B) Serum Creatinine  
 (C) BUN/serum Creatinine ratio (D) All of the above
151. All of the following are acute phase reactant proteins Except,  
 (A) C-reactive protein (B) HDL  
 (C) Ceruloplasmin (D) Haptoglobin
152. The Beer-Lambert law (Beer's law):  
 (A) Applies only to pure solutions and cannot be used in biologic samples  
 (B) Can be expressed by the formula  $A = \epsilon lc$ , where A is absorbance,  $\epsilon$  is a molar attenuation coefficient for the compound,  $l$  is path length, and  $c$  is concentration  
 (C) Describes the direct relationship between amount of light transmitted through a solution and the concentration of a substance present  
 (D) Is used to determine the amount of current needed to produce adequate separation of compounds in an electrophoretic apparatus.
153. The following pedigree (Fig.) is representative of which of the following inheritance ?
- 
- (A) Autosomal dominant (B) X-linked recessive  
 (C) Mitochondrial (D) X-linked dominant
154. In Fragile X associated Primary ovarian failure syndrome all true except  
 (A) Occurs in <40 years Female (B) FSH levels decreased in affected female  
 (C) Women have Menstrual irregularities (D) fertility is decreased
155. Trisomy 18 is associated with  
 (A) Down's Syndrome (B) Edward's Syndrome  
 (C) Patau syndrome (D) Fragile X syndrome





166. A 60 year old male had history of exposure of asbestosis. He also had history of smoking. He now presents with a mass in the apex of right lung. Which of the following would be seen on the electron microscopy of a biopsy from the lesion?
- (A) Melanosomes  
 (B) Neurosecretory granules  
 (C) Numerous long Slender microvilli  
 (D) Desmosomes with secretory endoplasmic reticulum
167. Which of the following does not causes generalized lymphadenopathy?
- (A) Sarcoidosis  
 (B) Myeloma  
 (C) HIV infection  
 (D) Non-Hodgkin lymphoma
168. Selective deposition of IgA auto-antibody on DIF (Direct Immunofluorescence) at the tips of dermal papillae is characteristic of
- (A) Pemphigus Vulgaris  
 (B) Dermatitis Herpetiformis  
 (C) Bullous Pemphigoid  
 (D) Epidermolysis Bullosa
169. Which of the following is TRUE about vWF (von Willebrand factor)?
- (A) It cross links platelet to each other  
 (B) It is functional in large multimeric form  
 (C) Half life of Factor VIII decreases, after VWF binding complex formed  
 (D) It carries factor IX
170. Patient is having reticulocyte count 6%, hematocrit 15. Consider normal hematocrit 45. What is corrected Reticulocyte count in this patient?
- (A) 2%  
 (B) 18%  
 (C) 3%  
 (D) 1.5%
171. Factor decreasing ESR
- (A) Old age  
 (B) Pregnancy  
 (C) Microcytic Hypochromic Anemia  
 (D) Polycythemia
172. True about weil's disease all except,
- (A) Causative organism is Leptospira  
 (B) Characterized by triad of Jaundice ,Renal dysfunction, Hemorrhagic diathesis  
 (C) There is mild thrombocytopenia  
 (D) Decreased BUN and creatinine
173. HIV virus contains
- (A) Single stranded DNA  
 (B) Single stranded RNA  
 (C) Double stranded DNA  
 (D) Double stranded RNA
174. A young boy from surat, had a flea bite while working in wheat godown, after 5 days he developed fever and had a axillary Lymphadenopathy. A FNAC smear was sent to laboratory and Special Wayson's stain done. Sample also sent to culture and gram negative bacteria with stalactic growth in noted on glucose broth is noted. Physician diagnosed it as Plague. Most likely causative organism is
- (A) Yersinia pestis  
 (B) Francisella tularensis  
 (C) Brucella abortus  
 (D) Coxiella burnetti

175. The capsule of *Cryptococcus neoformans* in CSF sample is best seen by  
 (A) Gram stain (B) Indian Ink preparation  
 (C) Giemsa stain (D) Methanamine –silver stain
176. An elderly Diabetic has left sided orbital cellulites, CT scan of paranasal sinuses shows evidence of left maxillary sinusitis. Gram stained smear of the orbital exudates shows irregularly branching septate hyphae. the following is the most likely aetiological agent  
 (A) Aspergillus (B) Rhizopus  
 (C) Mucor (D) Candida
177. Which of the following is NOT a Diagnostic criteria for chronic Neutrophilic Leukemia ?  
 (A) Peripheral blood white blood cell count  $\geq 25 \times 10^9 / L$   
 (B) Neutrophil precursors (promyelocytes, myelocytes, and metamyelocytes) constitute  $< 10\%$  of the white blood cells  
 (C) Myeloblasts in the bone marrow, constitute  $< 5\%$  of the nucleated cells  
 (D) Monocyte count  $> 1 \times 10^9 / L$
178. An example of granulomatous Lymphadenopathy due to noninfectious cause includes:  
 (A) Tularemia (B) Cat scratch disease  
 (C) Tuberculosis (D) Rheumatoid arthritis
179. POEMS syndrome is characterized by, all except:  
 (A) Neuropathy (B) Osteolytic lesions  
 (C) Endocrinopathy (D) Myopathy
180. Clinical manifestations of methemoglobinemia include:  
 (A) Cyanosis  
 (B) Hemolysis  
 (C) Normal PaO<sub>2</sub> in arterial blood gas analysis  
 (D) All of the above
181. Which of the following is not a subtype of classical Hodgkin lymphoma?  
 (A) Nodular sclerosis  
 (B) Nodular lymphocyte predominant Hodgkin lymphoma  
 (C) Lymphocyte depleted  
 (D) Lymphocyte rich
182. Which platelet agonists show a biphasic pattern in light transmission platelet aggregometry?  
 (A) ATP and ADP (B) ADP and epinephrine  
 (C) ATP and collagen (D) ADP and thrombin
183. Pelger- Huet anomaly is characterized by:  
 (A) Increased incidence of bacterial infections  
 (B) Transmission as autosomal dominant  
 (C) Dohle like bodies in the neutrophil cytoplasm  
 (D) 10% of neutrophils with bilobed nucleus
184. Which of the following situations would most likely result in liquefactive necrosis?  
 (A) Acute pancreatitis (B) Stroke  
 (C) Pulmonary tuberculosis (D) Myocardial infarction

185. All of the following are anti apoptotic gens except  
 (A) BCL2 (B) BCL-XL  
 (C) MCL1 (D) BAX
186. Compared with conventional smears, red blood cells seen in Liquid based preparation of PAP smear are usually  
 (A) Better Preserve (B) Lysed  
 (C) Absent (D) Nucleated
187. A 22-year-old HIV+ patient with meningoencephalitis and myocarditis submits for a lumbar puncture because of a spiking fever. Cytology reveals mononuclear pleocytosis. Giemsa staining reveals many crescent shaped cystic structures within the cytoplasm of histiocytes. The diagnosis is:  
 (A) Cryptosporidium (B) Toxoplasma gondii  
 (C) Entamoeba histolytica (D) Kaposi sarcoma
188. Measurement of Serum level of which interleukin is the best available biomarker to assess severity of COVID-19 ?  
 (A) IL3 (B) IL6  
 (C) IL7 (D) IL1
189. Multiple enchondromas are a feature of:  
 (A) Ollier disease (B) Maffucci syndrome  
 (C) McCune-Albright syndrome (D) Both a and b are correct
190. Which of the following lesion of the liver communicate with the intrahepatic biliary tree?  
 (A) Solitary (non-parasitic) cyst (B) Hydatid (echinococcal) cysts  
 (C) Hepatic adenoma (D) Caroli disease
191. A 45-year-old woman presented with bilateral parotid swelling without a discrete mass. Fine needle aspiration yielded plenty of normal salivary gland acini and small ducts adherent to thin fibrovascular stroma. There were no inflammatory cells. What is the correct interpretation?  
 (A) Sialadenosis (B) Sialadenitis  
 (C) Warthin's tumor (D) Oncocytoma
192. All of the following are true Regarding different forms of apoptosis except  
 (A) Necroptosis is Caspase Dependent pathway  
 (B) Necroptosis resembles necrosis morphologically , but like apoptosis is a genetically controlled cell death  
 (C) Pyroptosis occurs in cells infected by microbes  
 (D) Ferroptosis is an iron dependent pathway of cell death induced by lipid peroxidation
193. A 23-year-old man with hemophilia is recently wheelchair bound. Which of the following best accounts for this development?  
 (A) Hemarthrosis (B) Hematemesis  
 (C) Hematocephalus (D) Hematochezia
194. A 50-year-old alcoholic is rushed to the hospital with bleeding esophageal varices and expires. At autopsy, the patient's protruding abdomen is found to contain a large volume of serous fluid. What is the appropriate term used to describe this fluid?  
 (A) Ascites (B) Chylothorax  
 (C) Hemorrhage (D) Hydrothorax

195. All are true regarding lower reference limit value of Semen Analysis, according to WHO 2010, Except ?
- (A) Ejaculation volume- 1.5 ml (1.4-1.7)  
 (B) pH  $\geq$  7.2  
 (C) Total sperm count number ( $10^6$  per ejaculate) – 39 (33-46)  
 (D) Sperm concentration ( $10^6$  per ml) – 10 (9-11)
196. Which of the following laboratory value, in mothers serum analysis is suggestive of Down's syndrome?
- |     | <u>Beta hCG</u> | <u>Estriol</u> | <u>Alfa Fetoprotein</u> |
|-----|-----------------|----------------|-------------------------|
| (A) | Low             | High           | Low                     |
| (B) | Low             | Low            | Low                     |
| (C) | High            | High           | High                    |
| (D) | High            | Low            | Low                     |
197. Indications for ART (Assisted Reproductive Technology) is/Are
- (A) Male infertility (B) Ovarian failure  
 (C) Polycystic ovarian syndrome (D) All of the above
198. All the following are the sources of hematopoietic stem cells, EXCEPT:
- (A) Bone marrow (B) Splenic sinusoid  
 (C) Peripheral blood (D) Umbilical cord blood
199. Which of the following tubes should be filled FIRST during phlebotomy?
- (A) Blood-culture tubes (yellow)  
 (B) Coagulation sodium citrate tube (blue stopper)  
 (C) Serum tubes with or without clot activator or gel separator  
 (D) Heparin tubes with or without gel (green stopper)
200. Mallory Weiss syndrome is caused due to tear in
- (A) Lower oesophageal end (B) Upper oesophageal end  
 (C) Crico -pharyngeal junction (D) Gastro -oesophageal junction