

## (Pathology-Objective Part)

Time Allowed: 30 Minutes

Total Marks: 25

- 1- A 62 yr old male is suffering from upper epigastric discomfort and pain. He also complaint of unexplained weight lose. For workup of the patient gastroscopy is planned that revealed diffuse thickening of gastric wall. Biopsy of the mass revealed sheets of signet ring cells diffusely infiltrating in the wall. Which of the following gene get mutated in this case?
- APC
  - P53
  - beta catenin
  - CDH 1
  - MLH1
- 2- A biopsy from the stomach antrum of an adult who presents with epigastric pain reveals numerous lymphocytes and plasma cells within the lamina propria, there are also scattered neutrophils within the glandular epithelial cells. A steiner silver stain from this specimen is positive for a small, curved organism. These histologic changes are most consistent with infection by which one of the following organisms?
- Enteroinvasive E. coli
  - Entamoeba histolytica
  - Helicobacter pylori
  - Salmonella typhi
  - Shigella species
- 3- Which of the following are the tumor marker for detection, and follow up of the patient with colorectal carcinoma?
- Alfa fetoprotein
  - CA-125
  - PSA
  - CA19-9
  - Carcinoembryonic antigen CEA
- 4- A 51-year-old man presents with epigastric pain that is lessened whenever he eats. A gastroscopy is performed and solitary gastric ulcer is seen. In addition to necrotic debris and nonspecific acute inflammation, which one of the listed histologic findings is most likely to be present at the base of a healing benign gastric ulcer?
- Caseating granulomas
  - Granulation tissue
  - Multinucleated giant cells
  - PAS-positive macrophages
  - Signet ring cells



3- A 2-year-old girl is being evaluated for vomiting, diarrhea, and Failure to thrive. Laboratory studies revealed the presence of antiendomysial autoantibodies. What do you expect to see from a small intestinal biopsy of this patient?

- a. villous hypertrophy and crypts elongation
- b. villous hypertrophy and flattening
- c. villous hypertrophy and raised intraepithelial lymphocytes
- d. villous flattening and crypts elongation
- e. villous flattening and crypts flattening

6- Most common parasite involving appendix is

- a. Entamoeba histolytica
- b. Ascaris lumbricoides
- c. Shistosoma
- d. Enterobius vermicularis
- e. Hook worm

7- Which of the following combinations are the characteristic feature of ulcerative colitis?

- a. transmural disease, crypt distortion, cryptitis, crypt abscess, abundant goblet cells
- b. mucosal disease, crypt distortion, cryptitis, crypt abscess, goblet cell depletion
- c. mucosal disease, crypt distortion, cryptitis, crypt abscess, longitudinal ulcers
- d. mucosal disease, crypt distortion, non caseating granuloma, crypt abscess, goblet cell depletion
- e. transmural disease, non caseating granuloma, fissures

8- A newborn is having the complaint of poor oral intake, failure to pass meconium, bilious vomiting and abdominal distention. He underwent emergency laparotomy, operative findings are the large distended distal colon. The diagnosis of hirschsprung was made. Which of the following statement is the diagnose criteria to diagnose this condition?

- a. Increase number of ganglion cells in myenteric plexus
- b. Hypertrophied nerve fibers
- c. Absence of ganglion cells in myenteric plexus
- d. Reduced muscularis propria
- e. No nerves in myenteric plexus

9- Crohn disease is best described by which of the following combination of lesions?

- a. backwash ileitis, toxic megacolon, pseudopolyps
- b. skip lesions, pseudopolyps, toxic megacolon
- c. skip lesions, cobblestone appearance, perianal flatula, non caseating granuloma
- d. perianal flatula, skip lesion, pseudopolyps, toxic colon
- e. Transmural inflammation, pseudopolyps, rectum involment only



10- A 45-year-old man presents with fever, chronic diarrhea, and weight loss. He is found to have pain and swelling of multiple joints along with generalized lymphadenopathy and skin hyperpigmentation. A biopsy from his small intestines reveals the lamina propria to be filled with foamy macrophages having PAS-positive cytoplasm due to the presence of rod-shaped bacteria. Which of the following is the most likely diagnosis? ✓

- a. Abetalipoproteinemia
- b. Celiac disease
- c. Crohn disease
- d. Ulcerative colitis
- e. Whipple disease

11- A 39-year-old woman presents with abdominal cramps, watery diarrhea, bronchospasm and periodic facial flushing. Workup reveals several masses within the liver and a large mass in the small intestine. Biopsy of this mass revealed a tumor composed of polygonal to oval cells arranged in ribbon and rosettes pattern, with positive IHC staining with chromogranin. Which of the following substances is likely to be elevated in her urine?

- a. 5-hydroxyindoleacetic acid (5-HIAA)
- b. Aminolevulinic acid
- c. n-formiminoglutamate
- d. Normetanephrine
- e. Vanillylmandelic acid (VMA)

12- Which of the following is not a risk factors for colorectal CA?

- a. Low fiber diet
- b. Sedentary life style
- c. Smoking and alcohol
- d. FAP & HNPCC
- e. High fiber diet

13- A 38-year-old woman has complaint of increasing fatigue. Her past medical history is remarkable for the development of endometrial adenocarcinoma 3 years prior. An upper GI is unremarkable, but a barium enema study finds a 4-cm mass in the left side of his colon having an "apple core" appearance and a 2-cm mass in the right colon. Biopsies of these masses find multiple adenocarcinomas. She has no previous history of colon polyps. Further workup finds that several of her relatives have a history of colon cancer. What do you think that she might have which of the following syndrome?

- a. Adenomatous polyposis coli (APC)
- b. MYH polyposis
- c. Juvenile polyposis
- d. hereditary non polyposis colorectal cancer syndrome (HNPCC)
- e. peutz-jeghers syndrome



14- A 62-year-old man presents with gastric pain and is found to have a 3.5cm mass located in the anterior wall of his stomach. This mass is resected and histologic examination reveals a tumor composed of cells having elongated, spindle-shaped nuclei. Which of the following IHC is considered to be confirmatory marker to diagnose this tumor?

- a. CD10
- b. CD15
- c. CD30
- d. CD95
- e. CD117 (c-kit)

15- A 41-year-old man chronic smoker presents with a slowly enlarging mass on the right side of his face. Physical examination finds a 2.5-cm mass involving the superficial lobe of his right parotid gland. Histologic sections reveal a papillary tumor with cleft-like spaces lined by double layer of oncocytic cells. Which of the following is the most likely diagnosis?

- a. Adenoid cystic carcinoma
- b. Warthin tumor
- c. Sebaceous lymphadenoma
- d. Pleomorphic adenoma
- e. Lymphoepithelioma

16- Which of the following is not a determinant for malignant potential in case of adenomatous polyp ?

- a. Site of a polyp
- b. Size of a polyp
- c. Numbers of a polyp
- d. Architecture of a polyp
- e. Degree of dysplasia

17- A 35-year-old woman presents to surgical OPD with the lump left side of face. A 2.5-cm mass is found involving the deep portion of the left parotid gland. Histological examination of the lump revealed mixture of squamous epithelial cells and mucus-secreting cells positive with mucicarmine. Which of the following is the most likely diagnosis?

- a. Adenoid cystic carcinoma
- b. Warthin tumor
- c. Mucoepidermoid carcinoma
- d. Peomorphic adenoma
- e. Lymphoepithelioma



18- Perineural invasion is the characteristic microscopic feature of which of the following tumor?

- a. Pleomorphic adenoma
- b. Mucoepidermoid carcinoma
- c. Warthin tumor
- d. Acinic cell carcinoma
- e. Adenoid cystic carcinoma

19- During routine colonoscopy of a 65-year-old man, a 2-mm "dewdrop"-like polyp is found in the sigmoid colon. Histologic examination of a biopsy of this lesion reveals a serrated appearance that are confined to upper 3<sup>rd</sup> of mucosal surface with increased cytoplasmic mucin. Which of the following is the most likely diagnosis?

- a. Hamartomatous polyp
- b. Hyperplastic polyp
- c. Inflammatory polyp
- d. Tubular adenoma
- e. Villous adenoma

20- A 24 year-old male is being evaluated for possible gastrointestinal disease as his father died of colon cancer at the age of 42. Workup finds numerous small polyps (more than 100) carpeted throughout his entire colon. Which of the following syndrome are you expecting in this particular patient, and which gene is mutated in this syndrome?

- a. Cowden disease, APC gene
- b. Familial adenomatous polyposis, APC gene
- c. HNPCC syndrome, MLH 1 gene
- d. Peutz-Jegher syndrome, STK11 gene
- e. Turcot syndrome, MLH1 gene

21- While grossing the specimen of appendectomy, it is essential to take section from tip of appendix. Why?

- a. to see neutrophils within mucosa of tip
- b. not to miss carcinoid most common tumor of appendix
- c. to diagnose mucoappendix
- d. not to miss polyp of appendix
- e. to look for parasite within lumen



22- A 21 year old female having pigmentation around her lips since she was 15. She presents to surgical OPD with sudden onset of intestinal obstruction. She underwent emergency laparotomy, per operative findings are intussusceptions because of a polyp. Histological examination of that polyp revealed an arborizing pattern of muscularis mucosa lying by normal epithelium. This polyp belongs to which category?

- a. Hyperplastic polyp
- b. Adenomatous polyp
- c. Serrated polyp
- d. Hamartomatous polyp
- e. Inflammatory polyp

23- To diagnose a case of Barret esophagus, what should be present?

- a. Salmon coloured mucosa + columnar metaplasia with goblet cells
- b. Salmon coloured mucosa + absence of goblet cells
- c. Pearly white mucosa + columnar metaplasia with goblet cells
- d. Salmon coloured mucosa + columnar metaplasia with goblet cells depletion
- e. Pale mucosa + columnar metaplasia with goblet cells

24- Following statements are correct about HPV associated squamous cell carcinoma of oral cavity except

- a. involves base of tongue, tonsils & oropharynx
- b. relative good prognosis as compared to Non-HPV SCC
- c. chances of field cancerization is more as compared to Non-HPV SCC
- d. overexpression of P16 and non keratinizing SCC morphology
- e. chemo & radiotherapy sensitive as compared to Non-HPV SCC

25- Pseudomembranous colitis is caused by

- a. Clostridium difficile
- b. E.coli
- c. Giardia lamblia
- d. Pseudomonas
- e. Salmonella