EFFECTS OF DRUGS ON THE NERVOUS SYSTEM

1. On the chemical level, caffeine is very similar to a particular substance that normally binds to neural receptors in the brain. Instead, caffeine binds to the neural receptors and blocks ______________, so that it cannot affect your central nervous system.
   A. Adenosine  
   B. Aldosterone  
   C. Acetylcholine  
   D. Vasopressin  
   E. Napthalene

2. After the consumption of caffeine, the concentration of ___________ increases in the brain stem, resulting in an increase in the firing of skeletal muscle motor units.
   A. Nicotine  
   B. Serotonin  
   C. Alcohol  
   D. Morphine  
   E. Protease Inhibitor

3. There is a strong link between the release of a neurotransmitter and nicotine addiction. This neurotransmitter helps to control the brain’s reward and pleasure center. What is the name of this neurotransmitter?
   A. Glutamate  
   B. Endorphin  
   C. Serotonin  
   D. Dopamine  
   E. None of these

4. Which one of the following statements IS NOT correct regarding alcohol and the brain?
   A. Alcohol affects serotonin by increasing its level in the body.  
   B. Alcohol affects glutamate receptors resulting in faulty speech and memory blackouts.  
   C. Alcohol decreases the dopamine level, thereby resulting in addiction.  
   D. Alcohol slows the functioning of the central nervous system and alters a person's perception, emotion, movement, vision and hearing.  
   E. Alcohol actually escalates a condition called depression.

5. Marijuana affects cannabinoid receptors of the brain in all of the following ways EXCEPT:
   A. Affects the hypothalamus by increasing the appetite  
   B. Affects the hippocampus by impairing memory  
   C. Impairs coordination in the cerebellum  
   D. Plays role in pain reduction via actions on the brain stem  
   E. Reduces delusions and hallucinations via actions on the cerebral cortex

6. Wernicke–Korsakoff Syndrome is a brain disorder closely associated with ____________.
   A. Alcohol  
   B. Caffeine  
   C. Marijuana  
   D. Nicotine  
   E. None of these
DISEASES OF THE DIGESTIVE AND NERVOUS SYSTEMS

7. “Chewing gum” or osmotic diarrhea is associated with the consumption of ____________.
   A. Sorbitol
   B. Saccharin
   C. Glycerin
   D. Sterols
   E. Synthetic latex

8. The illustration above is associated with which one of the following disorders?
   A. Conjunctivitis
   B. Parkinson Disease
   C. Shingles
   D. Alzheimer’s Disease
   E. Cerebral Palsy

9. Lactose intolerance is caused by a deficiency in lactase, an enzyme needed to break lactose down into simpler sugars called:
   A. glucose and fructose
   B. fructose and galactose
   C. glucose and galactose
   D. ribose and mannose
   E. fructose and ribose

10. The Hydrogen Breath Test is frequently employed by doctors to diagnose ____________.
    A. Secretory Diarrhea
    B. Hepatitis C
    C. Appendicitis
    D. Lactose Intolerance
    E. Duodenal Ulcers

11. __________ is a potentially debilitating disease in which your body's immune system eats away at the protective sheath (myelin) that covers your nerves.
    A. Multiple Sclerosis
    B. Shingles
    C. Glaucoma
    D. Conjunctivitis
    E. Alzheimer’s Disease
12. Which major body organ is affected by the **hepatitis** virus?

   A. Stomach  
   B. Liver  
   C. Heart  
   D. Pancreas  
   E. Colon

13. The condition depicted above is caused by all of the following **EXCEPT:**

   A. Bacteria  
   B. Viruses  
   C. Irritants  
   D. Allergies  
   E. Aspartame

14. _________ belongs to a group of conditions called motor system disorders, which are the result of the loss of dopamine-producing brain cells.

   A. Parkinson Disease  
   B. Shingles  
   C. Glaucoma  
   D. Multiple Sclerosis  
   E. None of these

15. Today, research shows that most ulcers (80 percent of gastric ulcers and 90 percent of duodenal ulcers) develop as a result of infection with a bacterium called:

   A. *Helicobacter pylori*  
   B. *Micropolyspora rectivirgula*  
   C. *Kitasatoa purpurea*  
   D. *Planctomyces bekefii*  
   E. *Streptomyces griseochromogenes*

16. A 57 year old man complains about having dysphagia, losing weight without trying, chest pain, pressure or burning, fatigue, frequent choking while eating, heartburn, and coughing or hoarseness. He appears to have symptoms that reflect:

   A. Hepatitis A  
   B. Appendicitis  
   C. Esophageal Cancer  
   D. Liver Cancer  
   E. Cerebral Palsy
17. Which cancer type is depicted in the illustration above?
   
   A. Pancreatic  
   B. Esophageal  
   C. Colon  
   D. Stomach  
   E. Liver  

SENSE ORGANS

Refer to Figure 1.1 when answering questions 18–22.

18. Identify the fovea centralis in Figure 1.1

   A. Structure O  
   B. Structure M  
   C. Structure S  
   D. Structure K  
   E. Structure P

19. Vitreous humor is located in structure ____________ of Figure 1.1

   A. Structure P  
   B. Structure S  
   C. Structure Q  
   D. Structure T  
   E. Structure N
20. Which one of the following parts contains the photoreceptors called rods and cones?
   A. Structure K
   B. Structure J
   C. Structure L
   D. Structure N
   E. Structure R

21. Identify the choroid in Figure 1.1.
   A. Structure O
   B. Structure M
   C. Structure L
   D. Structure J
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22. Fluid from location P in Figure 1.1 drains from the eye via the
   A. Canal of Schlemm
   B. Lacrimal Canal
   C. Organ of Corti
   D. Sphincter of Oddi
   E. Wolffian Duct

23. Where is the location of the tympanum in Figure 1.2?
   A. 3
   B. 4
   C. 7
   D. 12
   E. 5

24. The __________, located inside structure #9, separates the tympanic canal middle canal.
   A. Tectorial Membrane
   B. Basilar Membrane
   C. Arachnoid Membrane
   D. Apex
   E. None of these
25. Which structure in Figure 1.2 contains sensory hairs that convert the mechanical energy into action potentials that are transmitted to the cerebral cortex?

A. 7  
B. 8  
C. 9  
D. 6  
E. 4

26. Where is the location of the incus in Figure 1.2?

A. 7  
B. 6  
C. 5  
D. 10  
E. 4

27. Which one of the following nerves functions in the sense of smell?

A. Auditory  
B. Vestibular  
C. Olfactory  
D. Gustatory  
E. Vagus

28. Heavy pressure and vibrations stimulate the __________.

A. Proprioceptors  
B. Baroreceptors  
C. Meissner's corpuscles  
D. Pacinian corpuscles  
E. None of these

29. Which sequence illustrating the pathway of sound is correct?

A. Air → tympanic membrane → round window → ossicles → fluid → cochlea  
B. Tympanic membrane → air → ossicles → fluid → cochlea → round window  
C. Air → tympanic membrane → ossicles → oval window → fluid → cochlea  
D. Air → tympanic membrane → fluid → oval window → ossicles → cochlea  
E. Air → tympanic membrane → ossicles → round window → fluid → cochlea

30. Mr. Fermi is 58 years old and has come to his eye doctor to get a new prescription for his glasses. The doctor performs another test and tells Mr. Fermi that his intraocular pressure is abnormally high. Mr. Fermi has the condition glaucoma, and the elevated intraocular pressure is caused by poor drainage of ______ in the anterior chamber of the eye.

A. Cytosol  
B. Vitreous Humor  
C. Aqueous Humor  
D. Lacrimal fluid  
E. Urea
31. Receptors that detect movement of the body are located in the ___________.
   A. Semicircular canals
   B. Organ of Corti
   C. Canal of Shlemm
   D. Vestibule
   E. Auditory Canal

32. The size of the pupil is regulated by the __________.
   A. Iris
   B. Cornea
   C. Retina
   D. Choroid
   E. Sclera

33. Which statement is NOT true of the brain and sensation?
   A. The visual areas are in the occipital lobes.
   B. The auditory areas are in the parietal lobes.
   C. Subconscious equilibrium is integrated by the cerebellum and midbrain.
   D. The olfactory areas are in the temporal lobes.
   E. The sensations of touch and pressure are in the parietal lobes.

34. In Figure 1.3, which structure is used to sense equilibrium?
   A. Structure I
   B. Structure G
   C. Structure E
   D. Structure A
   E. Structure B
35. The structure located at #6 in Figure 1.4 is called ____________.
   
   A. Pyloric Caeca  
   B. Gastric Caeca  
   C. Gastric Rugae  
   D. Peryer’s Patches  
   E. Villi

36. Structure #7 in Figure 1.4 is the ____________.
   
   A. Ascending Colon  
   B. Descending Colon  
   C. Transverse Colon  
   D. Sigmoid Colon  
   E. Caecum
37. Which structure stores bile in **Figure 1.4**?
   A. Structure 25  
   B. Structure 4  
   C. Structure 21  
   D. Structure 5  
   E. Structure 9

38. The islets of langerhans are located inside which structure of **Figure 1.4**?
   A. Structure 4  
   B. Structure 25  
   C. Structure 21  
   D. Structure 15  
   E. Structure 5

39. The backup of food from structure # 22 to structure # 5 is prevented by the __________.
   A. Fundus  
   B. Lower esophageal sphincter  
   C. Internal Anal Sphincter  
   D. Pyloric Sphincter  
   E. Ileocaecal Valve

40. Which one of the following is NOT an accessory organ of digestion in **Figure 1.4**?
   A. 25  
   B. 21  
   C. 2  
   D. 4  
   E. Both C and D

41. The structure located at # 14 in **Figure 1.4** is called ______________.
   A. Ileum  
   B. Duodenum  
   C. Jejunum  
   D. Haustra  
   E. Taenia coli

42. Appendicitis would occur in which structure of **Figure 1.4**?
   A. Structure 10  
   B. Structure 20  
   C. Structure 8  
   D. Structure 15  
   E. Structure 13

43. Structure #24 in **Figure 1.4** is the ______________
   A. Common Bile Duct  
   B. Hepatic Duct  
   C. Cystic Duct  
   D. Pancreatic Duct  
   E. Haustra

44. Mechanical digestion includes all of the following EXCEPT:
45. Which statement is NOT true of the locations of digestive organs or structures?

A. The parotid glands are below the floor of the mouth.
B. The pancreas extends from the duodenum to the spleen.
C. The gall bladder is on the underside of the right lobe of the liver.
D. The part of the colon that follows the descending colon is the sigmoid colon.
E. The incisors are located inside the buccal cavity.

46. Structure # 3 in Figure 1.5 is the ____________.

A. Parotid Duct  
B. Wharton’s Duct  
C. Cystic Duct  
D. Lacrimal Duct  
E. Lymphatic Duct

47. The submandibular gland in located at ________ in Figure 1.5.

A. 1  
B. 8  
C. 4  
D. 3  
E. 6
48. The structure located at “6” in Figure 1.6 is the ___________.
   - A. Dentin
   - B. Enamel
   - C. Pulp
   - D. Cementum
   - E. Crown

49. The structure located at “2” in Figure 1.6 is the ___________.
   - A. Dentin
   - B. Enamel
   - C. Pulp
   - D. Cementum
   - E. Crown

50. The structure located at “3” in Figure 1.6 is the ___________.
   - A. Dentin
   - B. Enamel
   - C. Pulp
   - D. Cementum
   - E. Crown

51. Identify the “Y” is Figure 1.7.
   - A. Capilliary
   - B. Venule
   - C. Lacteal
   - D. Nerve
   - E. Goblet Cell
52. The contents of the digestive tract were analyzed after eating a meal. In which organ of Figure 1.8 were the results of the graph recorded?

A. 1  
B. 9  
C. 22  
D. 16  
E. 10  

53. Chyme leaves ____ and enters ______ (Figure 1.8).

A. 9; 10  
B. 7; 9  
C. 12; 14  
D. 1; 5  
E. 22; 10  

54. A bolus forms in which location of Figure 1.8?

A. 1  
B. 7  
C. 18  
D. 9  
E. 15
Below are questions (55-59) reflecting cells that line certain areas of the gastro-intestinal tract. Match the cell to its function.

55. Chief Cells  
   A. Digestion and absorption  
56. Parietal Cells  
   B. Secrete antimicrobial peptides that sterilize the contents of the small intestine  
57. Goblet Cells  
   C. Secrete pepsinogen  
58. Paneth Cells  
   D. Secretes hydrochloric acid and intrinsic factor  
59. Columnar Epithelial Cells  
   E. Secrete mucus  

60. The mucosal lining of the large intestine contains predominantly __________.
   A. Goblet Cells  
   B. Absorptive Cells  
   C. Endocrine Cells  
   D. Chief Cells  
   E. Parietal Cells  

61. Arrange these parts in order from largest number of villi and circular folds to smallest number of villi and circular folds: [1. duodenum 2. Ileum 3. Jejunum]
   A. 1-2-3  
   B. 3-2-1  
   C. 2-1-3  
   D. 1-3-2  
   E. 3-1-2

Figure 1.9
62. Which one of the following is arranged in descending order of size based on **Figure 1.9**?

A. Ileum → Duodenum → Jejunum → Colon → stomach  
B. Duodenum → Ileum → Jejunum → Colon → stomach  
C. Colon → Duodenum → Jejunum → Ileum → stomach  
D. Ileum → Jejunum → Colon → Stomach → Duodenum  
E. Ileum → Duodenum → Jejunum → Stomach → Colon

63. Approximately how long is the entire gastrointestinal tract in feet based on data in **Figure 1.9**?

A. 30 feet  
B. 15 feet  
C. 25 feet  
D. 28 feet  
E. 20 feet

**TREATMENT AND PREVENTION OF GASTROINTESTINAL DISEASES**

64. The vast major of patients with __________ will recover spontaneously and require no treatment.

A. Hepatitis C  
B. Hepatitis A  
C. Hepatitis B  
D. Lactose Intolerance  
E. Appendicitis

65. A combination of pegylated interferon and ribavirin are used to treat __________.

A. Peptic ulcers  
B. Hepatitis A  
C. Hepatitis B  
D. Hepatitis C  
E. Appendicitis

66. Calcium supplements in the diet are usually required for persons suffering with __________

A. Appendicitis  
B. Lactose Intolerance  
C. Hepatitis A  
D. Pancreatic Cancer  
E. Esophageal Cancer

67. Which one of the following is **NOT** recommended in cases of diarrhea?

A. Drinking plenty of water  
B. Antibiotics  
C. Avoiding dairy products, fried foods, sweet foods, and foods high in fiber  
D. Taking Pepto-Bismol or Kaopectate  
E. Drinking only caffeinated soft drinks

68. Which one of the following is **NOT** a prescribed treatment for liver cancer?

A. Injecting pure alcohol into the cancerous tumor of the liver  
B. Injecting liquid nitrogen into the cancerous tumor of the liver  
C. Using electric currents to heat a small needle inserted in the cancerous liver tumor  
D. Radiation therapy  
E. Injecting HeLa cells into the cancerous tumor
THE BRAIN

69. Which lobe of the cerebral cortex is NOT paired with its correct function?

A. Frontal lobe – initiates voluntary movement
B. Parietal lobe- cutaneous sensory area
C. Occipital lobe- hearing area
D. Temporal lobe- olfactory area
E. Both A and B

70. When a person thinks and solves problems, which area of the cerebrum is involved?

A. Frontal Lobe
B. Parietal Lobe
C. Occipital Lobe
D. Temporal Lobe
E. None of these

71. The structure that allows the coordination between the left and right hemispheres of the brain for activities such as tying one’s shoelaces is

A. the hippocampus
B. the temporal lobes
C. the corpus callosum
D. Wernicke’s area
E. Broca’s area

72. The medulla oblongata contains reflex centers for ____________.

A. vomiting, coughing, sneezing, hiccuping, and swallowing
B. kneejerk and blinking
C. sexual response
D. fast responses to test questions
E. muscle coordination

Match the following functions with the areas of the brain in Figure 1.10 (73-78).

73. Visual perception, color recognition

75. Reasoning, judgment, memory

76. Pain and touch sensation, spatial orientation

77. Motor movement, balance, equilibrium

78. Auditory perception, speech, emotions

Figure 1.10
79. The ________ controls speech production while the ________ controls the comprehension of speech.

A. Broca’s Area; Wernicke’s Area
B. Wernicke’s Area; Broca’s Area
C. Organ of Zuckerandl; Organ of Corti
D. Organ of Corti; Organ of Zuckerandl
E. Brodmann’s Area; Broca’s Area

80. Where is region for speech located in Figure 1.11?

A. 18
B. 6
C. 5
D. 1
E. 15

81. Where is the region for language located in Figure 1.11?

A. 18
B. 6
C. 19
D. 8
E. 4

82. Where is the region for taste located in Figure 1.11?

A. 19
B. 4
C. 10
D. 17
E. 6

83. Mr. G has lost his sense of smell due to brain damage. Which area is apparently damaged in Figure 1.11?

A. 13
B. 2
C. 1
D. 9
E. 15
88. The mesentery that connects the greater curvature of the stomach to the transverse colon and posterior body wall is the:
   A. greater omentum
   B. lesser omentum
   C. omenta bursa
   D. mesentery proper
   E. parietal peritoneum

89. Given these structures:
   1. cecum
   2. descending colon
   3. rectum
   4. sigmoid colon
   5. transverse colon

Choose the arrangement that lists the structures in the order food passes through them from the small intestine to the anus.

   A. 1,2,3,4,5
   B. 1,5,2,4,3
   C. 2,5,1,3,4
   D. 3,1,5,2,4
   E. 4,2,1,5,3

90. Given these structure, which is correctly listed in the order of decreasing quantity (number)?

   A. Canines, incisors, molars
   B. Molars, bicusps, canines
   C. Molars, canines, premolars
   D. Incisors, molars, canines
   E. Canines, molars, bicusps
91. Structure # 33 in **Figure 1.13** is the:

A. Corpus Callosum  
B. Thalamus  
C. Hypothalamus  
D. Pineal Gland  
E. Cerebral Aquiduct

![Figure 1.13](image)

92. The **fundus** is located at which number in **Figure 1.14**?

A. 3  
B. 11  
C. 10  
D. 9  
E. 8

![Figure 1.14](image)
93. Which one of the following parts in Figure 1.15 is targeted for damage multiple sclerosis?

A. 1  
B. 2  
C. 3  
D. 4  
E. 7

94. Genetic forms of the disorder depicted in Figure 1.16 are inherited as

A. Autosomal dominant or autosomal recessive  
B. Sex-linked dominant  
C. Sex-linked recessive  
D. Mitochondrial  
E. Sex-influenced

95. Which one of the following is NOT type of the disorder depicted in Figure 1.16?

A. Open-Angle  
B. Angle-Closure  
C. Congenital  
D. Secondary  
E. Optic Neurologic

96. The liver, gallbladder, and pancreas are connected to ducts which enter the___________.

A. Caecum  
B. Descending Colon  
C. Duodenum  
D. Ileum  
E. Jejunum
97. Which organ in Figure 1.17 appears to be affected by a carcinoma?

A. Stomach  
B. Pancreas  
C. Liver  
D. Colon  
E. Esophagus

98. Identify structure “X” in Figure 1.18.

A. Mesentery  
B. Lacteal  
C. Ascending Colon  
D. Liver  
E. Pancreas

99. Which of the following is NOT a function of the sclera?

A. It provides attachment points for muscles that move the eye.  
B. It helps nourish the retina.  
C. It helps maintain the shape of the eye.  
D. It protects internal structures of the eye.  
E. Both A and B

100. Which of the following is NOT true about the cornea?

A. It is the main place at which refraction of light occurs.  
B. It is transparent.  
C. It is nourished by the vitreous humor.  
D. It is avascular.  
E. It is comprised of five layers.
EFFECTS OF DRUGS ON THE NERVOUS SYSTEM

1. On the chemical level, caffeine is very similar to a particular substance that normally binds to neural receptors in the brain. Instead, caffeine binds to the neural receptors and blocks ______________, so that it cannot affect your central nervous system.

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10. The **Hydrogen Breath Test** is frequently employed by doctors to diagnose ___________.
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12. Which major body organ is affected by the **hepatitis** virus?

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**B. Liver**  
C. Heart  
D. Pancreas  
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13. The condition depicted above is caused by all of the following **EXCEPT**:

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15. Today, research shows that most ulcers (80 percent of gastric ulcers and 90 percent of duodenal ulcers) develop as a result of infection with a bacterium called:

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B. Vestibular  
C. Olfactory  
D. Gustatory  
E. Vagus

28. Heavy pressure and vibrations stimulate the __________.

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B. Baroreceptors  
C. Meissner’s corpuscles  
D. Pacinian corpuscles  
E. None of these

29. Which sequence illustrating the pathway of sound is correct?

A. Air → tympanic membrane → round window → ossicles → fluid → cochlea  
B. Tympanic membrane → air → ossicles → fluid → cochlea → round window  
C. Air → tympanic membrane → ossicles → oval window → fluid → cochlea  
D. Air → tympanic membrane → fluid → oval window → ossicles → cochlea  
E. Air → tympanic membrane → ossicles → round window → fluid → cochlea

30. Mr. Fermi is 58 years old and has come to his eye doctor to get a new prescription for his glasses. The doctor performs another test and tells Mr. Fermi that his intraocular pressure is abnormally high. Mr. Fermi has the condition glaucoma, and the elevated intraocular pressure is caused by poor drainage of _______ in the anterior chamber of the eye.

A. Cytosol  
B. Vitreous Humor  
C. Aqueous Humor  
D. Lacrimal fluid  
E. Urea
31. Receptors that detect movement of the body are located in the ___________.
   
   A. Semicircular canals
   B. Organ of Corti
   C. Canal of Shlemm
   D. Vestibule
   E. Auditory Canal

32. The size of the pupil is regulated by the __________.
   
   A. Iris
   B. Cornea
   C. Retina
   D. Choroid
   E. Sclera

33. Which statement is NOT true of the brain and sensation?
   
   A. The visual areas are in the occipital lobes.
   B. The auditory areas are in the parietal lobes. **This is the correct answer.**
   C. Subconscious equilibrium is integrated by the cerebellum and midbrain.
   D. The olfactory areas are in the temporal lobes.
   E. The sensations of touch and pressure are in the parietal lobes.

34. In Figure 1.3, which structure is used to sense equilibrium?
   
   A. Structure I
   B. Structure G
   C. Structure E
   D. Structure A
   E. Structure B

Figure 1.3
35. The structure located at # 6 in Figure 1.4 is called ____________.
   
   A. Pyloric Caeca  
   B. Gastric Caeca  
   C. Gastric Rugae  
   D. Peryer’s Patches  
   E. Villi 

36. Structure # 7 in Figure 1.4 is the ____________.
   
   A. Ascending Colon  
   B. Descending Colon  
   C. Transverse Colon  
   D. Sigmoid Colon  
   E. Caecum
37. Which structure stores bile in **Figure 1.4**?

   A. **Structure 25**  
   B. Structure 4  
   C. Structure 21  
   D. Structure 5  
   E. Structure 9  

38. The islets of langerhans are located inside which structure of *Figure 1.4*?

   A. Structure 4  
   B. Structure 25  
   C. **Structure 21**  
   D. Structure 15  
   E. Structure 5  

39. The backup of food from structure # 22 to structure # 5 in **Figure 1.4** is prevented by the __________.

   A. Fundus  
   B. Lower esophageal sphincter  
   C. Internal Anal Sphincter  
   D. **Pyloric Sphincter**  
   E. Ileocaecal Valve  

40. Which one of the following is NOT an accessory organ of digestion in **Figure 1.4**?

   A. 25  
   B. 21  
   C. 2  
   D. 4  
   E. Both C and D  

41. The structure located at # 14 in **Figure 1.4** is called ______________.

   A. **Ileum**  
   B. Duodenum  
   C. Jejunum  
   D. Haustra  
   E. Taenia coli  

42. Appendicitis would occur in which structure of **Figure 1.4**?

   A. Structure 10  
   B. Structure 20  
   C. Structure 8  
   D. **Structure 15**  
   E. Structure 13  

43. Structure #24 in **Figure 1.4** is the ______________

   A. Common Bile Duct  
   B. Hepatic Duct  
   C. **Cystic Duct**  
   D. Pancreatic Duct  
   E. Haustra
44. Mechanical digestion includes all of the following EXCEPT:

   A. Mastication  
   B. Peristalsis  
   C. Deglutition  
   D. Churning  
   E. Enzyme

45. Which statement is NOT true of the locations of digestive organs or structures?

   A. The parotid glands are below the floor of the mouth.  
   B. The pancreas extends from the duodenum to the spleen.  
   C. The gall bladder is on the underside of the right lobe of the liver.  
   D. The part of the colon that follows the descending colon is the sigmoid colon.  
   E. The incisors are located inside the buccal cavity.

46. Structure # 3 in Figure 1.5 is the ______________.

   A. Parotid Duct  
   B. Wharton’s Duct  
   C. Cystic Duct  
   D. Lacrimal Duct  
   E. Lymphatic Duct

47. The submandibular gland in located at _______ in Figure 1.5.

   A. 1  
   B. 8  
   C. 4  
   D. 3  
   E. 6
48. The structure located at “6” in Figure 1.6 is the ____________.
   A. Dentin  
   B. Enamel  
   C. Pulp  
   D. Cementum  
   E. Crown

49. The structure located at “2” in Figure 1.6 is the ____________.
   A. Dentin  
   B. Enamel  
   C. Pulp  
   D. Cementum  
   E. Crown

50. The structure located at “3” in Figure 1.6 is the ____________.
   A. Dentin  
   B. Enamel  
   C. Pulp  
   D. Cementum  
   E. Crown

51. Identify the “Y” is Figure 1.7.
   A. Capillary  
   B. Venule  
   C. Lacteal  
   D. Nerve  
   E. Goblet Cell
52. The contents of the digestive tract were analyzed after eating a meal. In which organ of Figure 1.8 were the results of the graph recorded?

A. 1  
B. 9  
C. 22  
D. 16  
E. 10

53. Chyme leaves ____ and enters ______ (Figure 1.8).

A. 9; 10  
B. 7; 9  
C. 12; 14  
D. 1; 5  
E. 22; 10

54. A bolus forms in which location of Figure 1.8?

A. 1  
B. 7  
C. 18  
D. 9  
E. 15
Below are questions (55-59) reflecting cells that line certain areas of the gastro-intestinal tract. Match the cell to its function.

55. Chief Cells
   A. Digestion and absorption (59)

56. Parietal Cells
   B. Secrete antimicrobial peptides that sterilize the contents of the small intestine (58)

57. Goblet Cells
   C. Secretes pepsinogen (55)

58. Paneth Cells
   D. Secretes hydrochloric acid and intrinsic factor (56)

59. Columnar Epithelial Cells
   E. Secrete mucus (57)

60. The mucosal lining of the large intestine contains predominantly __________.

   A. Goblet Cells
   B. Absorptive Cells
   C. Endocrine Cells
   D. Chief Cells
   E. Parietal Cells

61. Arrange these parts in order from largest number of villi and circular folds to smallest number of villi and circular folds: [1. duodenum 2. Ileum 3. Jejunum]

   A. 1-2-3
   B. 3-2-1
   C. 2-1-3
   D. 1-3-2
   E. 3-1-2

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**Figure 1.9**
62. Which one of the following is arranged in descending order of size based on figure 1.9?

A. Ileum → Duodenum → Jejunum → Colon → stomach
B. Duodenum → Ileum → Jejunum → Colon → stomach
C. Colon → Duodenum → Jejunum → Ileum → stomach
D. Ileum → Jejunum → Colon → Stomach → Duodenum
E. Ileum → Duodenum → Jejunum → Stomach → Colon

63. Approximately how long is the entire gastrointestinal tract in feet based on data in Figure 1.9?

A. 30 feet
B. 15 feet
C. 25 feet
D. 28 feet
E. 20 feet

TREATMENT AND PREVENTION OF GASTROINTESTINAL DISEASES

64. The vast majority of patients with ______________ will recover spontaneously and require no treatment.

A. Hepatitis C
B. Hepatitis A
C. Hepatitis B
D. Lactose Intolerance
E. Appendicitis

65. A combination of pegylated interferon and ribavirin are used to treat ____________.

A. Peptic ulcers
B. Hepatitis A
C. Hepatitis B
D. Hepatitis C
E. Appendicitis

66. Calcium supplements in the diet are usually required for persons suffering with ____________.

A. Appendicitis
B. Lactose Intolerance
C. Hepatitis A
D. Pancreatic Cancer
E. Esophageal Cancer

67. Which one of the following is NOT recommended in cases of diarrhea?

A. Drinking plenty of water
B. Antibiotics
C. Avoiding dairy products, fried foods, sweet foods, and foods high in fiber
D. Taking Pepto-Bismol or Kaopectate
E. Drinking only caffeinated soft drinks

68. Which one of the following is NOT a prescribed treatment for liver cancer?

A. Injecting pure alcohol into the cancerous tumor of the liver
B. Injecting liquid nitrogen into the cancerous tumor of the liver
C. Using electric currents to heat a small needle inserted in the cancerous liver tumor
D. Radiation therapy
E. Injecting HeLa cells into the cancerous tumor
69. Which lobe of the cerebral cortex is NOT paired with its correct function?

A. Frontal lobe – initiates voluntary movement
B. Parietal lobe - cutaneous sensory area
C. **Occipital lobe** - hearing area
D. Temporal lobe - olfactory area
E. Both A and B

70. When a person thinks and solves problems, which area of the cerebrum is involved?

A. **Frontal Lobe**
B. Parietal Lobe
C. Occipital Lobe
D. Temporal Lobe
E. None of these

71. The structure that allows the coordination between the left and right hemispheres of the brain for activities such as tying one’s shoelaces is

A. the hippocampus
B. the temporal lobes
C. **the corpus callosum**
D. Wernicke’s area
E. Broca’s area

72. The *medulla oblongata* contains reflex centers for _____________.

A. vomiting, coughing, sneezing, hiccupsing, and swallowing
B. knee jerk and blinking
C. sexual response
D. fast responses to test questions
E. muscle coordination

Match the following functions with the areas of the brain in **Figure 1.10** (73-78).

73. Visual perception, color recognition **C**
75. Reasoning, judgment, memory **A**
76. Pain and touch sensation, spatial orientation **B**
77. Motor movement, balance, equilibrium **E**
78. Auditory perception, speech, emotions **D**

![Figure 1.10](image)
79. The ________ controls speech production while the ________ controls the comprehension of speech.

A. Broca’s Area; Wernicke’s Area  
B. Wernicke’s Area; Broca’s Area  
C. Organ of Zuckerkandl; Organ of Corti  
D. Organ of Corti; Organ of Zuckerkandl  
E. Brodmann’s Area; Broca’s Area

80. Where is region for speech located in Figure 1.11?

A. 18  
B. 6  
C. 5  
D. 1  
E. 15

81. Where is the region for language located in Figure 1.11?

A. 18  
B. 6  
C. 19  
D. 8  
E. 4

82. Where is the region for taste located in Figure 1.11?

A. 19  
B. 4  
C. 10  
D. 17  
E. 6

83. Mr. G has lost his sense of smell due to brain damage. Which area is apparently damaged in Figure 1.11?

A. 13  
B. 2  
C. 1  
D. 9  
E. 15
88. The mesentery that connects the greater curvature of the stomach to the transverse colon and posterior body wall is the:

A. greater omentum  
B. lesser omentum  
C. omenta bursa  
D. mesentery proper  
E. parietal peritoneum

89. Given these structures:

A. cecum  
B. descending colon  
C. rectum  
D. sigmoid colon  
E. transverse colon

Choose the arrangement that lists the structures in the order food passes through them from the small intestine to the anus.

A. 1,2,3,4,5  
B. 1,5,2,4,3  
C. 2,5,1,3,4  
D. 3,1,5,2,4  
E. 4,2,1,5,3

90. Given these structure, which is correctly listed in the order of decreasing quantity (number)?

A. Canines, incisors, molars  
B. Molars, bicuspid, canines  
C. Molars, canines, premolars  
D. Incisors, molars, canines  
E. Canines, molars, bicuspid
91. Structure # 33 in Figure 1.13 is the:

A. Corpus Callosum  
B. Thalamus  
C. Hypothalamus  
D. Pineal Gland  
E. Cerebral Aquiduct

92. The fundus is located at which number in Figure 1.14?

A. 3  
B. 11  
C. 10  
D. 9  
E. 8
93. Which one of the following parts in Figure 1.15 is targeted for damage multiple sclerosis?

A. 1  
B. 2  
C. 3  
**D. 4**  
E. 7

94. Genetic forms of the disorder depicted in Figure 1.16 are inherited as

A. **Autosomal dominant or autosomal recessive**  
B. Sex-linked dominant  
C. Sex-linked recessive  
D. Mitochondrial  
E. Sex-influenced

95. Which one of the following is NOT type of the disorder depicted in Figure 1.16?

A. Open-Angle  
B. Angle-Closure  
C. Congenital  
D. Secondary  
**E. Optic Neurologic**

96. The liver, gallbladder, and pancreas are connected to ducts which enter the______________.

A. Caecum  
B. Descending Colon  
C. **Duodenum**  
D. Ileum  
E. Jejunum
97. Which organ in Figure 1.17 appears to be affected by a carcinoma?

A. Stomach  
B. Pancreas  
C. Liver  
D. Colon  
E. Esophagus

98. Identify structure “X” in Figure 1.18.

A. Mesentery  
B. Lacteal  
C. Ascending Colon  
D. Liver  
E. Pancreas

99. Which of the following is NOT a function of the sclera?

A. It provides attachment points for muscles that move the eye.  
B. It helps nourish the retina.  
C. It helps maintain the shape of the eye.  
D. It protects internal structures of the eye.  
E. Both A and B

100. Which of the following is NOT true about the cornea?

A. It is the main place at which refraction of light occurs.  
B. It is transparent.  
C. It is nourished by the vitreous humor.  
D. It is avascular.  
E. It is comprised of five layers.