

## Section 1

**Directions:** Each of the numbered items or incomplete statements in this segment is followed by 4 or 5 lettered options. Select the ONE lettered option that is the BEST answer for each item.

1. A 27-year-old African-American woman has dyspnea on exertion, nonproductive cough and arthralgia involving the knees and ankles. Physical examination shows annular papules on the face, painful, indurated pretibial nodules and bilateral knee effusions. Chest x-ray film shows bilateral hilar adenopathy and streaky reticular infiltrates. The most appropriate treatment is
  - (A) corticosteroids
  - (B) indomethacin
  - (C) isoniazid
  - (D) MOPP (mechlorethamine-vincristine-procarbazine-prednisone)
  - (E) rifampin
  
2. A 50-year-old man is admitted to the emergency department because of a 3-day history of disorientation, memory loss and unsteadiness of gait. On physical examination he is disoriented, is agitated and has short-term memory loss. He also has bilateral abducens (VI) nerve palsies, nystagmus and ataxia. The most likely diagnosis is
  - (A) an abscess in the left cerebral hemisphere
  - (B) meningioma of the frontal lobe
  - (C) multiple sclerosis
  - (D) vitamin B<sub>12</sub> deficiency
  - (E) Wernicke encephalopathy
  
3. The best indicator of long-term metabolic control of diabetes mellitus is
  - (A) a review of the patient's records of home glucose monitoring
  - (B) the rate of appearance of diabetic retinopathy and nephropathy
  - (C) measurement of serum C peptide concentration
  - (D) measurement of blood hemoglobin A<sub>1c</sub>
  - (E) an oral glucose tolerance test

4. After 3 days of fever spiking to 40.3°C (104.6°F), a 14-month-old girl defervesces and develops a diffuse erythematous maculopapular rash. The most likely cause is
- (A) erythema infectiosum
  - (B) measles
  - (C) pityriasis rosea
  - (D) roseola
  - (E) rubella
5. Death 3 weeks after a major thermal burn is usually a result of
- (A) adult respiratory distress syndrome
  - (B) malnutrition
  - (C) myonecrosis
  - (D) overwhelming sepsis
  - (E) renal failure
6. You are called by the employer of a 57-year-old man whom you have been treating for diabetes mellitus with insulin for the past 9 years. The employer asks if your patient has diabetes. He states that persons who have diabetes and use insulin are not allowed to drive buses for his company. The most appropriate response to the employer is:
- (A) "I cannot discuss my patient's medical condition without his permission."
  - (B) "I will have to check my patient's medical record and call you back."
  - (C) "It is illegal to discriminate against people with handicaps or medical problems."
  - (D) "My patient's diabetes is well controlled and should not prevent him from driving a bus."
  - (E) "Yes, he has diabetes and uses insulin."
7. A cave explorer was bitten on the face by a bat that was not recovered. The most appropriate course of action is to
- (A) administer human rabies immune globulin at the first sign of symptoms in the patient
  - (B) immediately administer live-attenuated virus vaccine from chick embryos
  - (C) immediately administer human rabies immune globulin
  - (D) immediately administer inactivated virus vaccine grown in human diploid cell cultures
  - (E) immediately administer both human rabies immune globulin and human diploid cell vaccine

8. Blockage of the pancreatobiliary tree at the duodenal papilla produces acute pancreatitis because
- (A) bile pigments emulsify the membranes of pancreatic cells
  - (B) bile salts digest the pancreatic proteins
  - (C) biliary secretion changes the pH of the pancreatic secretion from basic to acidic
  - (D) enterokinase is produced in the gallbladder and is a component of bile
  - (E) proenzymes are converted into active enzymes within the pancreas
9. A 48-year-old woman seeks relief of hot flushes and other menopausal symptoms. The physical finding that would confirm a significant reduction in estrogen production would be
- (A) cystic ovaries
  - (B) decreased pigmentation of the areolae
  - (C) dryness of the vaginal mucosa
  - (D) nodularity of the breasts
  - (E) prolapse of the uterus
10. A patient complains of tiredness and fatigue unrelated to exertion. These symptoms are worst in the morning but improve as the day progresses. This is most characteristic of
- (A) Addison disease
  - (B) hypothyroidism
  - (C) major depressive disorder
  - (D) myasthenia gravis
  - (E) pernicious anemia
11. Following an automobile accident, a 27-year-old man has contusions over the anterior chest wall. His blood pressure is 140/70 mm Hg in the right arm and 80/50 mm Hg in the left arm. At this time it is most appropriate to
- (A) obtain echocardiogram
  - (B) obtain subclavian arteriogram
  - (C) do thoracentesis of the left side of the chest
  - (D) obtain x-ray film of the chest
  - (E) obtain x-ray film of the left clavicle

12. A 35-year-old woman had a 2-hour episode of left ear fullness, tinnitus and whirling vertigo yesterday. The most appropriate next step is to
- (A) inject cold water into the ear canal
  - (B) obtain further history
  - (C) order audiometric tests
  - (D) order electronystagmography
  - (E) order CT scan
13. A 33-year-old man previously hospitalized for a schizophreniform disorder comes to the emergency department with all of the findings listed below. Which is most suggestive of delirium (acute organic brain syndrome)?
- (A) Clouding of consciousness and disorientation
  - (B) Concrete thinking
  - (C) Speech bordering on incoherence
  - (D) Visual hallucinations
  - (E) Persecutory delusions
14. The most effective treatment of a patient who has extrapyramidal side effects resulting from prochlorperazine therapy is
- (A) calcium lactate
  - (B) chlorpromazine
  - (C) dimercaprol
  - (D) diphenhydramine
  - (E) exchange transfusion
15. A 15-year-old girl has not had the onset of menses. Findings on physical examination include breast buds and moderate pubic hair (Tanner stage 2). No abnormalities are noted. The most likely diagnosis is
- (A) congenital absence of the uterus
  - (B) emotional deprivation
  - (C) gonadal dysgenesis
  - (D) imperforate hymen
  - (E) normal variation

16. The phenomenon of scapegoating in a dysfunctional family generally refers to
- (A) accusations of parental abuse by a child with academic and social problems
  - (B) attention to an inadequate school system rather than to the poor study habits of the child
  - (C) attribution of blame for the family's difficulties to outside forces such as neighbors or police
  - (D) focusing on a child's behavioral problem instead of the parents' marital conflicts
  - (E) presentation of a facade of happy family life to outsiders
17. A paraplegic 29-year-old man develops a renal calculus. The stone is removed and, upon analysis, is found to contain magnesium, ammonium and phosphate. The most important step in subsequent management is to
- (A) eradicate any urinary tract infection
  - (B) maintain alkalization of the urine
  - (C) reduce calcium intake
  - (D) reduce magnesium intake
  - (E) reduce phosphate intake
18. An 80-year-old white woman comes to the office because of rectal bleeding and pain. The patient has otherwise been healthy except for mild hypertension, for which she takes hydrochlorothiazide. Surgical history includes cholecystectomy and abdominal hysterectomy. The patient previously worked as a fashion designer and is still meticulous and fashionable in her dress. During the course of the workup, you diagnose a low rectal cancer that for adequate treatment will require colonic resection with permanent colostomy. The most appropriate way to inform the patient is to
- (A) discuss the risks and benefits of all treatment options
  - (B) tell her only about the resection; delay any discussion about the permanent colostomy until the night before the surgery so that she will be less likely to change her mind
  - (C) tell her that she will die without the surgery
  - (D) tell her that the operation is not that big an adjustment, and not mention the need for permanent colostomy
  - (E) tell her that colostomies are not that bad and anyone can adjust
19. At 4 AM the mother of a 16-year-old boy telephones because her son is complaining of left-sided chest pain and mild shortness of breath. She also says that earlier in the evening he had complained of chest pain after playing basketball. The best immediate course of action is to instruct the mother to
- (A) administer acetaminophen
  - (B) administer aspirin
  - (C) apply a cold compress for 30 minutes
  - (D) immobilize the left shoulder
  - (E) take her son to the emergency department

20. Of the following, the most likely cause of inhibited sexual desire in a 45-year-old married man with no previous history of sexual difficulty is
- (A) Addison disease
  - (B) anxiety disorder
  - (C) compulsive disorder
  - (D) depressive disorder
  - (E) vascular disease
21. The incidence of a disease is five times greater in men than in women, but the prevalence shows no sex difference. The best explanation is:
- (A) The mortality rate is greater in women
  - (B) The case-fatality rate is greater in women
  - (C) The duration of the disease is greater in women
  - (D) Men have a prolonged carrier state
  - (E) The diagnosis is missed more often in women
22. A 26-year-old man, who has had a chronic disease that has been treated for 15 years, has had decreased sensation in his feet for the past 4 months. Physical examination shows a thin, pleasant person. His blood pressure is 135/86 mm Hg and his pulse is 76/min and regular. Skin and adnexae are normal except for moderately tender subcutaneous nodules in his upper thighs. Lungs are clear. Heart is normal. Liver span is 10 cm, and a sharp edge is palpated 1 cm below the right costal margin. Genitalia are normal. He has decreased sensation to pinprick distal to both ankles and experiences unusual discomfort if the soles of his feet are slapped. There is a large callus on the plantar surface of his right foot over the head of the first metatarsal. The physical examination will also most likely show
- (A) bilateral field defects in the upper outer quadrants
  - (B) generalized lymphadenopathy and splenomegaly
  - (C) hemorrhages and exudates in the ocular fundi
  - (D) an intention tremor of the upper extremities
  - (E) reduction of androgen-dependent hair
23. There is an increased risk for congenital malformations in neonates born to mothers who, during pregnancy, take
- (A) acetaminophen
  - (B) digoxin
  - (C) penicillin
  - (D) phenytoin
  - (E) propranolol

24. A 15-year-old white girl is brought to the office by her mother for a routine physical examination. Neither the teenager nor her mother expresses any specific concerns. The mother is asked to leave the examination room so that a confidential health assessment of the teenager can be conducted. You say, "I'd like to discuss some important things about your health, which you may feel are personal, but what you tell me will be very important and will be kept confidential." You proceed to ask the teenager about life at home and at school, and question her about her sexual activity, drug use and activities that she does in her spare time. The best opening question to elicit information about her drug use is:
- (A) "Do you use drugs?"
  - (B) "I need to know what kinds of drugs you've experimented with so that we can determine if you have a problem."
  - (C) "Some teenagers your age have experimented with drugs; what's been your experience?"
  - (D) "You don't use drugs, do you?"
  - (E) "What drugs have you tried?"
25. A 38-year-old obese white woman comes to the office because of a painful, swollen left leg. She states that she bumped her leg on a coffee table 10 days ago. On physical examination the calf is swollen and painful to touch. Doppler ultrasonography of the femoral veins shows diminished flow with filling defect. The most appropriate next step is to
- (A) admit her to the hospital for anticoagulation therapy
  - (B) apply moist, warm packs and administer aspirin
  - (C) order elevation of the leg, bed rest and anti-inflammatory drug therapy
  - (D) prescribe warfarin therapy
  - (E) take no therapeutic action
26. A 5-year-old child is apparently dying because of an uncontrolled metastatic malignancy. The parents ask what will be done if the child has a cardiac arrest. The physician should
- (A) indicate that all measures will be taken to preserve the child's life
  - (B) recommend that no resuscitative efforts be undertaken
  - (C) refrain from discussing the issue
  - (D) present the advantages and disadvantages of each alternative and help the parents make a decision
  - (E) present to the parents only the information that will lead them to make the decision the physician feels is best

27. A previously healthy 33-year-old woman has had blurry vision for the past 3 days. On examination of extraocular movements, her left eye adducts slowly and incompletely, while the abducting right eye exhibits a nystagmus. The most likely diagnosis is
- (A) a brain stem vascular accident
  - (B) cerebellopontine angle tumor
  - (C) diabetes mellitus
  - (D) multiple sclerosis
  - (E) myotonic dystrophy
28. Two years ago, a 7-year-old child had an episode of rheumatic fever with resultant mitral insufficiency. She has been asymptomatic for 22 months. The most important purpose of her periodic visits is to
- (A) obtain a chest x-ray film
  - (B) obtain an echocardiogram
  - (C) obtain an electrocardiogram for evidence of myocarditis
  - (D) prepare for elective surgery within 1 year
  - (E) verify compliance with the prophylactic regimen
29. An 18-year-old woman who is 36 weeks pregnant is admitted to the hospital because of a blood pressure of 150/100 mm Hg and 3+ protein on urinalysis. Magnesium sulfate is started. The most appropriate next step is to
- (A) begin intranasal oxygen therapy
  - (B) do amniocentesis in 1 week
  - (C) induce labor
  - (D) initiate terbutaline therapy
  - (E) order ultrasonography to determine gestational age
30. A 5-year-old boy has swallowed the contents of a bottle of unidentified pills. Two administrations of syrup of ipecac fail to induce vomiting. The patient has become drowsy. The most appropriate step is to administer
- (A) a large amount of water
  - (B) apomorphine
  - (C) copper sulfate
  - (D) gastric lavage, then activated charcoal
  - (E) salt water, then activated charcoal

31. Hypotension in a patient with a closed fracture of the femur is most likely a result of
- (A) an associated head injury
  - (B) bleeding into the thigh
  - (C) fat embolism
  - (D) neurogenic shock
  - (E) an occult fracture of the pelvis
32. The most common late complication of a corrosive burn of the esophagus is the development of
- (A) carcinoma
  - (B) perforation
  - (C) reflux esophagitis
  - (D) stricture
  - (E) tracheoesophageal fistula
33. A 56-year-old man is admitted to the hospital from the emergency department because of an acute myocardial infarction. He has no identified risk factors and no history of heart disease. He had no major complications and is discharged after 8 days. At discharge, the diagnostic test that should be scheduled for the 2-week follow-up visit in order to predict most accurately his risk for another infarction is
- (A) electrocardiogram
  - (B) exercise stress test
  - (C) 24-hour ambulatory electrocardiographic monitoring
  - (D) radionuclide ventriculography
  - (E) ultrasonography of the heart

34. A recent, large clinical trial assessed the effect of digoxin on morbidity and mortality in patients with chronic congestive heart failure (CHF). In the trial, more than 7000 patients with left ventricular ejection fractions of 0.45 or less were randomly assigned to receive digoxin or placebo. All patients also were treated with diuretics and an angiotensin-converting enzyme (ACE) inhibitor. The patients were observed for an average of 37 months. During the clinical trial, 34.8% of patients treated with digoxin and 35.1% of patients treated with placebo died (relative risk=0.99; confidence interval 95%=0.91 to 1.07,  $p=0.80$ ). The best interpretation of these data is that in combination with a diuretic and ACE inhibitor, digoxin results in which of the following?
- (A) A beneficial effect on mortality rates
  - (B) A beneficial effect on patients with CHF
  - (C) No conclusive evidence of effect because of the limited power of the study
  - (D) No effect on CHF
  - (E) No effect on mortality rates
35. A 7-month-old Asian-American infant is brought to the emergency department because of rhinorrhea and difficulty breathing. Vital signs are: temperature 38.3°C (101.0°F), pulse 120/min and respirations 60/min. Examination of the chest shows intercostal retractions, prolongation of expiration, and diminished breath sounds bilaterally. The most likely underlying cause of his condition is
- (A) choanal atresia
  - (B) inflammation and consolidation of the lung parenchyma
  - (C) inflammation and obstruction of the bronchioles
  - (D) inflammation and obstruction of the trachea and subglottic area
  - (E) inflammation of the epiglottis
36. A 44-year-old general surgeon is convicted of narcotic abuse. He successfully completes a 3-month drug rehabilitation program. Following this treatment, his privilege to practice medicine will be determined by which of the following?
- (A) American Board of Surgery
  - (B) Credentials committee of his hospital
  - (C) State medical board
  - (D) US Drug Enforcement Agency
  - (E) He will not be permitted to practice

**The following two questions refer to the vignette below.**

A 25-year-old African-American lawyer comes to the office for a routine physical examination. He has no specific complaints or problems but says his work is highly stressful, and since last year he has gained 9 kg (20 lb). He attributes this weight gain to a sedentary lifestyle. His father died at age 42 years of a myocardial infarction. The patient admits to smoking one to two packs of cigarettes per day and to consuming two to three mixed alcoholic drinks per day. Physical examination shows:

Height	170 cm (5 ft 7 in)
Weight	94 kg (210 lb)
Pulse	90/min
Respirations	16/min
Blood pressure	150/94 mm Hg

37. The most important negative outcome for which he is at increased risk is
- (A) alcohol-induced cardiomyopathy
  - (B) chronic obstructive pulmonary disease
  - (C) developing coronary artery disease at a young age
  - (D) hypertension-induced nephropathy
  - (E) stress-induced coronary vasospasm
38. As part of this patient's counseling on disease prevention, you should advise him that his risk for illness or death would be decreased most significantly if he
- (A) controls his blood pressure
  - (B) loses weight
  - (C) reduces his alcohol intake
  - (D) reduces his stress
  - (E) stops smoking

**Directions:** Each set of items in this segment consists of a heading of lettered response options. Select the ONE lettered option that is most closely associated with each item. Within a set of items, each lettered option may be selected once, more than once, or not at all.

**Items 39–40:**

Diagnosis by:

- (A) KOH preparation
- (B) Pap smear
- (C) Thayer-Martin culture
- (D) Tissue culture
- (E) Wet smear

Vulvovaginitis caused by:

39. *Trichomonas vaginalis*

- (A) (B) (C) (D) (E)

40. *Candida albicans*

- (A) (B) (C) (D) (E)

**Items 41–42:**

- (A) Gonococcal arthritis
- (B) Gouty arthritis
- (C) Osteoarthritis
- (D) Rheumatoid arthritis
- (E) Tuberculous arthritis

41. Morning stiffness, pain on motion

- (A) (B) (C) (D) (E)

42. Migratory polyarthralgia followed by localization in one or two joints

- (A) (B) (C) (D) (E)

**Items 43–44:**

Most appropriate treatment:

- (A) Observation and follow-up only
- (B) Radioactive iodine
- (C) Thyroid replacement
- (D) Thyroid-stimulating hormone
- (E) Total thyroidectomy

43. A 20-year-old woman with a history of irradiation to the head and neck

- (A)      (B)      (C)      (D)      (E)

44. A 53-year-old woman with Graves disease

- (A)      (B)      (C)      (D)      (E)

**Directions:** Each of the items in this segment consists of 2 or 3 patients followed by the same set of 10 lettered response options. For each patient, select the ONE best lettered option. Within a set of items, each lettered option may be selected once, more than once, or not at all.

**Items 45–46:**

45. A 3-year-old boy is brought to the emergency department with respiratory distress and inspiratory stridor. His temperature is 39.8EC (103.6EF). He is sitting upright and is drooling.

The most likely diagnosis is:

- (A) Anaphylaxis
- (B) Aspiration of foreign body
- (C) Bronchospasm
- (D) Diphtheria
- (E) Epiglottitis
- (F) Fracture of the larynx
- (G) Hereditary angioedema
- (H) Laryngotracheobronchitis (croup)
- (I) Peritonsillar abscess
- (J) Retropharyngeal abscess

46. A 25-year-old man develops itching and difficulty breathing while eating a shrimp salad. He has inspiratory stridor.

The most likely diagnosis is:

- (A) Anaphylaxis
- (B) Aspiration of foreign body
- (C) Bronchospasm
- (D) Diphtheria
- (E) Epiglottitis
- (F) Fracture of the larynx
- (G) Hereditary angioedema
- (H) Laryngotracheobronchitis (croup)
- (I) Peritonsillar abscess
- (J) Retropharyngeal abscess

**Items 47–48:**

47. A 19-year-old woman with sickle cell disease has a temperature of 39.2°C (102.6°F) and pain in her left femur.

The most likely diagnosis is:

- (A) Cholangitis
- (B) Hodgkin disease
- (C) Hypernephroma
- (D) Infectious endocarditis
- (E) Infectious mononucleosis
- (F) Osteomyelitis
- (G) Polymyalgia rheumatica
- (H) Pyelonephritis
- (I) Sarcoidosis
- (J) Systemic lupus erythematosus

48. A 40-year-old woman has abdominal pain, chills, and pyuria. Her temperature is 38.7°C (101.6°F).

The most likely diagnosis is:

- (A) Cholangitis
- (B) Hodgkin disease
- (C) Hypernephroma
- (D) Infectious endocarditis
- (E) Infectious mononucleosis
- (F) Osteomyelitis
- (G) Polymyalgia rheumatica
- (H) Pyelonephritis
- (I) Sarcoidosis
- (J) Systemic lupus erythematosus

**Items 49–50:**

49. An afebrile 58-year-old man complains of tightness or pressure in the chest. He has dyspnea, a cough and expiratory wheezing.

The most likely diagnosis is:

- (A) Acute bronchitis
- (B) Atelectasis
- (C) Bronchial asthma
- (D) Bronchiectasis
- (E) Cancer of the lung
- (F) Chronic obstructive pulmonary disease
- (G) Cystic fibrosis
- (H) Pneumococcal pneumonia
- (I) Pulmonary embolus
- (J) Pulmonary tuberculosis

50. During the past 5 years a 46-year-old man, who smokes two packs of cigarettes per day, has developed progressive dyspnea accompanied by coughing and wheezing.

The most likely diagnosis is:

- (A) Acute bronchitis
- (B) Atelectasis
- (C) Bronchial asthma
- (D) Bronchiectasis
- (E) Cancer of the lung
- (F) Chronic obstructive pulmonary disease
- (G) Cystic fibrosis
- (H) Pneumococcal pneumonia
- (I) Pulmonary embolus
- (J) Pulmonary tuberculosis

## Section 2

**Directions:** Each of the numbered items or incomplete statements in this segment is followed by 4 or 5 lettered options. Select the ONE lettered option that is the BEST answer for each item.

1. A 71-year-old woman has been treated for many years by a cardiologist for coronary artery disease and congestive heart failure. Her chief complaints now are weight loss and anorexia. Physical examination and chest x-ray film are normal; serum chemistry profile is within normal limits. The best next step in evaluating her problem would be to
  - (A) do nothing at this time; monitor her weight during the next 2 months
  - (B) order an abdominal CT scan with contrast enhancement after confirming that renal function is normal
  - (C) order thyroid function tests
  - (D) order an upper gastrointestinal series to be followed by a barium enema
  - (E) review her medications
  
2. A 29-year-old man comes to the emergency department because of methyl alcohol intoxication 2 hours ago. While awaiting the results of initial laboratory studies, the most appropriate treatment is
  - (A) administration of ethyl alcohol, intravenously
  - (B) administration of ipecac, orally
  - (C) administration of sodium bicarbonate, intravenously
  - (D) gastric lavage
  - (E) peritoneal dialysis
  
3. A 31-year-old Asian-American woman is brought to the office by her husband because of severe anxiety. He says that about 3 months ago she touched a live electric wire, which gave her a shock. She was dazed and “not herself” for several hours after the incident. During the next few weeks she had frequent crying spells and became irritable and went into rages without apparent provocation. She has been having nightmares and flashbacks about the incident. She keeps saying, “I’ll never be myself again.” Physical examination and neurologic work-ups are normal. The most likely diagnosis is
  - (A) adjustment disorder with anxious mood
  - (B) major depressive episode
  - (C) organic anxiety syndrome
  - (D) posttraumatic stress disorder
  - (E) simple phobic disorder

4. In evaluating a patient complaining of chest pain, it is most important to
- (A) determine whether there is tenderness to palpation over the precordium
  - (B) elicit a description of the symptoms in the patient's own words
  - (C) obtain a complete family and social history
  - (D) obtain an exercise electrocardiogram
  - (E) obtain a resting electrocardiogram
5. Staphylococcal food poisoning is best characterized by
- (A) exfoliation of skin of the hands, feet and circumoral area of the face
  - (B) hematochezia and shock occurring 6 to 10 hours after ingesting contaminated food
  - (C) presence of fever that typically begins after ingesting contaminated food
  - (D) recovery of *Staphylococcus aureus* from culture of the stool
  - (E) vomiting and diarrhea occurring 30 minutes to 7 hours after ingesting contaminated food
6. An unconscious young man is admitted to the hospital. Other than signs of coma, the only abnormality found on physical examination is ecchymoses over the mastoid areas. The most likely explanation is
- (A) basilar skull fracture
  - (B) epidural hemorrhage
  - (C) hemophilia
  - (D) lateral sinus thrombosis
  - (E) subarachnoid hemorrhage
7. A 15-year-old boy has recently been diagnosed as having tonic-clonic seizures. Phenytoin, 300 mg daily, has been prescribed. If compliance with this treatment regimen is in doubt, compliance will best be confirmed by
- (A) determining the absence of seizures
  - (B) determining the presence of nystagmus
  - (C) finding a serum phenytoin concentration within the therapeutic range
  - (D) ordering electroencephalography
  - (E) requesting a parent to observe the boy take his medication

8. A 45-year-old African-American policeman comes to the office for a routine check-up. You last saw him 3 years ago for a similar visit, and he was noted to be in good health at that time. He smokes one pack of cigarettes per day, but he indicates now that he wants to quit. Prostate cancer was recently diagnosed in his 78-year-old father. Today, blood pressure is 126/78 mm Hg and pulse is 72/min. Physical examination is normal. The most cost-effective health maintenance activity for this patient is
- (A) a chest x-ray film
  - (B) counseling for smoking cessation
  - (C) determination of serum prostate-specific antigen concentration
  - (D) determination of serum total cholesterol concentration
  - (E) screening proctosigmoidoscopy
9. A 40-year-old man is brought to the emergency department because of hematemesis and hypotension. He had been treated previously at this hospital for alcoholic cirrhosis and portal hypertension. After resuscitation and stabilization of his condition, the patient initially should have
- (A) hepatic venography
  - (B) splenoportography
  - (C) superior mesenteric angiography
  - (D) upper gastrointestinal barium study
  - (E) upper gastrointestinal endoscopy
10. Herniated lumbar nucleus pulposus is best distinguished from postural backache by the finding of
- (A) asthenic body habitus
  - (B) bilaterality of back pain
  - (C) painful limitation of passive straight leg-raising
  - (D) sedentary lifestyle
  - (E) sleeping on a sagging mattress
11. A 77-year-old man with a history of poorly controlled hypertension and diabetes mellitus is brought to the emergency department because he has been unable to speak for the past 12 hours. The family states that following dinner the patient went to lie down and was found several hours later unable to move his right arm and leg and unable to speak. Physical examination confirms the presence of aphasia and a right hemiparesis. The most appropriate first step is to
- (A) control blood pressure and blood glucose
  - (B) do a lumbar puncture and, if cerebrospinal fluid is normal, begin intravenous heparin therapy
  - (C) initiate intravenous heparin therapy and request neurologic consultation
  - (D) order emergency cerebral angiography of the anterior circulation
  - (E) order emergency MRI of the brain to exclude a midline shift

12. Five diagnostic tests are available to detect a certain disease. Their statistical properties are:

<u>Test</u>	<u>Sensitivity</u>	<u>Specificity</u>
A	90	80
B	80	90
C	95	70
D	70	95
E	90	90

If the costs and risks of the tests are similar, which test is most likely to confirm disease?

- (A) Test A
- (B) Test B
- (C) Test C
- (D) Test D
- (E) Test E

13. A 13-year-old Hispanic girl is brought to the office by her mother, who is worried because her daughter has lost 11 kg (25 lb) during the past 6 months. When you ask the girl about the weight loss she says, "I'm dieting because I'm way too fat." She denies any purging or bingeing. You have been the girl's physician since her birth. Menarche occurred at 11 years of age, and though her periods were regular for 1 year, she has not had a period for the past 4 months. She says she is not sexually active. A routine health maintenance visit 1 year ago was normal. She is the sixth child of seven and is the only female child. Her mother has hypertension and diabetes mellitus, and an older brother has bipolar disorder. The girl is taking no medications. On physical examination today she is thin but alert. Her skin has an orange tinge and is cold to touch. She has fine lanugo hair on her body. Height, weight, and vital signs are:

Height	160 cm (5 ft 3 in; 75th percentile)
Weight	39 kg (85 lb; 25th percentile)
Temperature	36.7EC (98.0EF)
Pulse	85/min
Respirations	20/min

The patient's signs and symptoms are most consistent with

- (A) Addison disease
- (B) anorexia nervosa
- (C) bulimia
- (D) depression
- (E) hyperthyroidism

14. A 22-year-old woman complains that her menstrual period is 2 weeks late. The most appropriate initial diagnostic study is to measure her serum concentration of

- (A)  $\beta$ -subunit human chorionic gonadotropin
- (B) prolactin
- (C) estradiol
- (D) luteinizing hormone-releasing hormone (LH-RH)
- (E) progesterone

15. A 2-day-old neonate with Down syndrome has duodenal atresia. After counseling, the parents refuse to give consent for the recommended operation. The most appropriate next step would be to

- (A) begin intravenous hyperalimentation
- (B) petition the court to appoint a guardian to allow the operation
- (C) proceed with the operation if two other physicians agree it is necessary
- (D) send a report of child neglect to the Child Protection Agency
- (E) withhold all treatment according to the wishes of the parents

16. A 54-year-old woman whom you have been treating for diabetes mellitus for the past 5 years comes to the office for a scheduled appointment. In the past 3 months she has repeatedly called the office because she lost her prescription for her oral hypoglycemic agent. At her most recent visit 4 weeks ago, her serum glucose concentration was 250 mg/dL and her weight had increased by 1.4 kg (3 lb) within 1 month. Her medical history is otherwise unremarkable. She smokes two packs of cigarettes daily and admits that she does not follow her ADA-recommended diet. "I thought these pills were supposed to control my diabetes. I take them most days of the week—why do you always give me a hard time about what I eat?" She is in no distress. Physical examination shows:

Height	168 cm (5 ft 6 in)	Funduscopic	Mild AV nicking
Weight	104 kg (230 lb)	Blood glucose	260 mg/dL by dipstick
Pulse	84/min		
Respirations	18/min		
Blood pressure	140/88 mm Hg		

A soft  $S_4$  gallop is noted for the first time on cardiovascular examination. You acknowledge to the patient that many people have problems taking medications and adhering to a strict diet. She responds by saying, "I can't do that diet." The most appropriate response is:

- (A) "If you think taking pills is tough, just think about what it will be like if you need to take insulin."
- (B) "Let me give you some strategies that might help you take the medicines and follow the diet."
- (C) "Look, don't get angry with me. I'm just trying to help."
- (D) "You are obviously too emotional for us to have a discussion about this issue at this time."
- (E) "You will be taking insulin soon if you don't take your pills."

17. Patients are asked to explain proverbs to evaluate
- (A) abstract thinking
  - (B) anxiety level
  - (C) delusional thinking
  - (D) fund of knowledge
  - (E) memory
18. A 14-year-old boy with bilateral, painless gynecomastia has normal genitalia. The most likely diagnosis is
- (A) an adrenal tumor
  - (B) Hodgkin disease
  - (C) Klinefelter syndrome
  - (D) prolactinoma
  - (E) normal development
19. A migrant farm worker comes to the emergency department because of generalized weakness, difficulty speaking, miosis and copious salivation. The class of compounds most likely to produce these symptoms is
- (A) carbamates
  - (B) chlorinated hydrocarbons
  - (C) dipyridyls
  - (D) organophosphates
  - (E) phenol derivatives
20. For the past 4 months a 35-year-old man has had extensive diagnostic work-up for fever of unknown origin. Now while passing by his room, the nurse notes that he was holding the thermometer near the radiator. At this time the appropriate management is to
- (A) call his family and inform them of this event
  - (B) discuss the incident with him and evaluate his response
  - (C) inform him that there is no further need for either of you to pursue this matter
  - (D) surreptitiously videotape him in the act and preserve this should there be future legal action
  - (E) surreptitiously videotape him in the act and show this to his family

21. In a 51-year-old man who has weight loss, salt craving and hyperpigmentation of the skin, the physical finding most consistent with adrenal insufficiency is
- (A) anterior subcapsular cataract
  - (B) calcification of the limbus of the eye
  - (C) icterus
  - (D) orthostatic hypotension
  - (E) pyoderma gangrenosum

22. After 14 minutes of cardiopulmonary resuscitation in the emergency department, arterial blood gas values of a 52-year-old man show:

PO <sub>2</sub>	72 mm Hg
PCO <sub>2</sub>	74 mm Hg
pH	7.06
HCO <sub>3</sub> <sup>-</sup>	24 mEq/L

The most appropriate treatment is to

- (A) increase the oxygen concentration to 100%
  - (B) increase the ventilatory rate and tidal volume
  - (C) inject acetazolamide, 250 mg, intravenously
  - (D) inject sodium bicarbonate, 0.5 mEq/kg, intravenously
  - (E) maintain the present management
23. A 4-year-old boy is brought to the office by his parents because of a burn on the leg. Child abuse should be suspected most if the
- (A) child has a history of frequent accidents
  - (B) child has a history of frequent illnesses
  - (C) description of the cause of the injury does not correlate with the findings
  - (D) father is alcohol-dependent
  - (E) parents are on welfare
24. A 10-year-old boy with no history of enuresis begins to wet his bed at night. The most likely cause is
- (A) epilepsy
  - (B) family stress
  - (C) fire-setting
  - (D) masturbation
  - (E) maturational delay

25. The angry father of an 18-year-old woman, to whom you have given contraceptive advice and an appropriate prescription, comes to the office and demands to see his daughter's chart. He threatens legal action if he is refused. Ethically, the appropriate action is to
- (A) explain that you are not permitted to violate the confidentiality of the patient-physician relationship
  - (B) give him the chart, apologizing for your inattention to his rights as a parent
  - (C) refuse to talk to him and refer the problem to your attorney
  - (D) show him the chart, but only in the presence of his daughter
  - (E) suggest a family conference to discuss the matter
26. The drug that is most capable of combating the central and peripheral anticholinergic symptoms of tricyclic antidepressants is
- (A) atropine
  - (B) edrophonium
  - (C) ephedrine
  - (D) physostigmine
  - (E) pralidoxime
27. Of the following, a transient ischemic attack is most often characterized by
- (A) amaurosis fugax
  - (B) headache
  - (C) orthostatic hypotension
  - (D) syncope
  - (E) vertigo
28. After an uneventful prenatal course, a 32-year-old woman, who is gravida 2, para 0, abortus 1, is admitted to the hospital at 37 weeks' gestation because of low back pain and vaginal spotting. On physical examination her cervix is dilated to 3 cm, 75% effaced, with the vertex at -1 station. Membranes are intact. Results of laboratory studies are normal. The most appropriate management is to
- (A) administer ritodrine
  - (B) evaluate fetal size by ultrasonography
  - (C) prepare her for immediate delivery
  - (D) reassure her and send her home
  - (E) observe

29. A passenger in a taxi misses an employment opportunity when the vehicle is rammed from the rear by a public transit authority bus. The passenger has a posterior neckache for 3 days and no other problems. Physical and roentgenographic examinations are unremarkable. Two months later, constant generalized headache commences and progressively intensifies despite oral analgesics. The passenger sues the transit authority for personal injury. A physical examination and all appropriate diagnostic tests show no abnormalities. Sustained relief of headache is most probable after
- (A) addition of an antidepressant to the analgesic regimen
  - (B) hypnosis
  - (C) initiation of intramuscular analgesic therapy
  - (D) initiation of narcotic analgesic therapy as necessary
  - (E) settlement of the litigation claim
30. If a patient with an anterior shoulder dislocation has decreased sensation over the lateral aspect of the shoulder, the nerve that was injured is the
- (A) axillary
  - (B) median
  - (C) musculocutaneous
  - (D) radial
  - (E) ulnar
31. A 26-year-old woman at term with the fetus in breech presentation has spontaneous rupture of the membranes with prolapse of the cord. The most important step in immediate management is to
- (A) administer a conduction anesthetic agent
  - (B) administer oxygen and atropine
  - (C) administer oxytocin
  - (D) insert a urinary catheter
  - (E) manually displace the presenting part
32. A 34-year-old laborer comes to the office because of a 2-kg (5-lb) weight loss and an increased appetite. He has type 1 diabetes mellitus and has been taking insulin in divided doses. He says that home monitoring of his serum glucose concentration has shown values from 280 mg/dL to 320 mg/dL. Which of the following is the most appropriate management?
- (A) Add metformin
  - (B) Change to another type of insulin
  - (C) Increase his caloric intake
  - (D) Increase his insulin dose
  - (E) Redistribute his caloric intake

33. A 52-year-old woman who has had low back pain for several years is admitted to the hospital because the pain has suddenly worsened. Her current medications include oxycodone, amitriptyline, perphenazine, fluoxetine and trazodone. On physical examination, the patient is 10% below her ideal body weight, pupils are constricted and skin turgor is poor. She seems sluggish and her speech is slow. Results of neurologic examination and x-ray films of the lumbosacral spine are normal. If a medication is responsible for her mental condition, the medication is most likely to be which of the following?
- (A) Amitriptyline
  - (B) Fluoxetine
  - (C) Oxycodone
  - (D) Perphenazine
  - (E) Trazodone
34. A 28-year-old woman who is 20 weeks pregnant with her third child comes to the office for a routine prenatal visit. She has two healthy children, ages 7 and 5 years. Her previous pregnancies were uncomplicated except for a cesarean delivery of the first child. She began using cocaine soon after the birth of her second child, and she has been in and out of drug treatment programs for the past 3 years. She has used crack cocaine on and off throughout this pregnancy. You have encouraged her to seek help; however, she has made no attempt to abstain from using cocaine and she refuses to commit herself to another drug treatment program. In your attempt to persuade this patient to stop using cocaine, you advise her that if she continues to use cocaine during the pregnancy, she increases her risk for which of the following?
- (A) Chorioamnionitis
  - (B) Gestational diabetes
  - (C) Placental abruption
  - (D) Placenta previa
  - (E) Preeclampsia

35. A 42-year-old woman with a history of multiple sclerosis comes to the office because she had a sudden loss of vision in the right eye. She has no history of diplopia. On examination, external ocular movements are normal but funduscopic examination shows pallor of the optic disk. This patient's condition is most likely due to demyelination of which of the following?
- (A) Medial longitudinal fasciculus
  - (B) Oculomotor nerve
  - (C) Optic nerve
  - (D) Trigeminal nerve
  - (E) Visual cortex
36. A 22-year-old woman is admitted to the hospital because of a high fever, headache, sore throat, myalgia, a macular erythematous rash, watery diarrhea and hypotension 36 hours after the onset of her menses. The most likely diagnosis is
- (A) cholera
  - (B) meningitis
  - (C) scarlet fever
  - (D) toxic shock syndrome
  - (E) typhoid fever

**The following two questions refer to the vignette below.**

A 48-year-old man with a dilated cardiomyopathy and chronic atrial fibrillation calls you at the office requesting a refill for warfarin. The nurse, whom he called in the anticoagulation clinic earlier, refused to give him a prescription because he had missed four appointments in the clinic. He has not had his prothrombin time checked in the past 2 months. He tells you he feels his “usual self” but has noted many bruises on his extremities without associated trauma. He “promises” to come to the office for his appointment in 3 weeks, but he has been “too busy” to come to the anticoagulation clinic.

37. The most appropriate response is:

- (A) “Have you been taking any medications that contain aspirin? That might explain the bruising.”
- (B) “I will call in a prescription but only enough to last until your appointment in 3 weeks.”
- (C) “The increased bruising concerns me but if you are willing to take the risk of more serious bleeding, I will give you a prescription to last until you come in.”
- (D) “The increased bruising concerns me. You must come in to check your blood before I can renew the warfarin.”
- (E) “You need to get serious about your health. We can't prevent your bruises without your cooperation.”

38. The most likely reason for the patient's noncompliance is:

- (A) He does not care about his health
- (B) He does not fully understand the risks of anticoagulation therapy
- (C) He has a self-destructive behavior
- (D) He is depressed and is making a suicidal gesture
- (E) He needs an evening appointment so it will not interfere with his work

**Directions:** Each set of items in this segment consists of a heading of lettered response options. Select the ONE lettered option that is most closely associated with each item. Within a set of items, each lettered option may be selected once, more than once, or not at all.

**Items 39–40:**

- (A) Anaerobic *Streptococcus*
- (B) *Chlamydia trachomatis*
- (C) Herpes simplex, type 1
- (D) Human papillomavirus
- (E) *Neisseria gonorrhoeae*

39. Septic arthritis

- (A) (B) (C) (D) (E)

40. A precursor of genital malignant neoplasm

- (A) (B) (C) (D) (E)

**Items 41–42:**

The most likely diagnosis is:

- (A) Bladder calculus
- (B) Cancer of the bladder
- (C) Cancer of the prostate gland
- (D) Cystitis
- (E) Prostatitis

41. A 42-year-old man with a temperature of 39.2°C (102.6°F) has perineal pain, dysuria and shaking chills.

- (A) (B) (C) (D) (E)

42. A 55-year-old man who is a cigarette smoker develops painless gross hematuria.

- (A) (B) (C) (D) (E)

**Items 43–44:**

- (A) Aldosterone antagonists (e.g., spironolactone)
- (B) Loop diuretics (e.g., furosemide)
- (C) Osmotic diuretics (e.g., mannitol)
- (D) Thiazide diuretics (e.g., hydrochlorothiazide)
- (E) Vasopressin antagonists (e.g., oxytocin)

Side effects:

43. Hyperkalemia

- (A)      (B)      (C)      (D)      (E)

44. Ototoxicity

- (A)      (B)      (C)      (D)      (E)

**Directions:** Each of the items in this segment consists of 2 or 3 patients followed by the same set of 10 lettered response options. For each patient, select the ONE best lettered option. Within a set of items, each lettered option may be selected once, more than once, or not at all.

**Items 45–46:**

45. A 49-year-old malnourished patient with chronic alcoholism has anemia. Laboratory studies show a mean corpuscular volume of  $123 \mu\text{m}^3$ , hypersegmented neutrophils and normal serum vitamin B<sub>12</sub> concentration.

The most likely diagnosis is:

- (A) Acute myeloblastic leukemia
- (B) Autoimmune hemolytic anemia
- (C) Chronic lymphocytic leukemia
- (D) Folate deficiency
- (E) Hereditary spherocytosis
- (F) Iron deficiency anemia
- (G) Microangiopathic hemolytic anemia
- (H) Multiple myeloma
- (I) Sickle cell disease
- (J) Thalassemia minor

46. An asymptomatic 80-year-old man has anemia, diffuse lymphadenopathy and hepatosplenomegaly. Leukocyte count is  $85,000/\text{mm}^3$  with 5% neutrophils and 95% lymphocytes.

The most likely diagnosis is:

- (A) Acute myeloblastic leukemia
- (B) Autoimmune hemolytic anemia
- (C) Chronic lymphocytic leukemia
- (D) Folate deficiency
- (E) Hereditary spherocytosis
- (F) Iron deficiency anemia
- (G) Microangiopathic hemolytic anemia
- (H) Multiple myeloma
- (I) Sickle cell disease
- (J) Thalassemia minor

**Items 47–48:**

47. An afebrile 4-year-old boy has had diarrhea for 1 day. Other children in the day-care center have had similar symptoms during the past week.

The most likely diagnosis is:

- (A) Diarrhea caused by *Clostridium difficile*
  - (B) Diverticulitis
  - (C) Giardiasis
  - (D) Inflammatory bowel disease
  - (E) Irritable bowel syndrome
  - (F) Laxative abuse
  - (G) Shigellosis
  - (H) Staphylococcal food poisoning
  - (I) Villous adenoma
  - (J) Viral gastroenteritis
48. A 35-year-old construction worker with a temperature of 39.2°C (102.0°F) has had abdominal cramps and occasional diarrhea for 5 days. Co-workers have similar symptoms.

The most likely diagnosis is:

- (A) Diarrhea caused by *Clostridium difficile*
- (B) Diverticulitis
- (C) Giardiasis
- (D) Inflammatory bowel disease
- (E) Irritable bowel syndrome
- (F) Laxative abuse
- (G) Shigellosis
- (H) Staphylococcal food poisoning
- (I) Villous adenoma
- (J) Viral gastroenteritis

**Items 49–50:**

49. On pelvic examination, a 33-year-old woman with a 5-year history of progressive dysmenorrhea and primary infertility has nodularity of the uterosacral ligaments.

The most likely diagnosis is:

- (A) Appendicitis
- (B) Benign ovarian cyst
- (C) Diverticulitis
- (D) Ectopic pregnancy
- (E) Endometriosis
- (F) Ovarian carcinoma
- (G) Pelvic inflammatory disease
- (H) Psychogenic pain
- (I) Urinary tract calculus
- (J) Uterine leiomyoma

50. A 24-year-old woman with a history of pelvic inflammatory disease has the acute onset of pelvic pain, vaginal bleeding and postural hypotension.

The most likely diagnosis is:

- (A) Appendicitis
- (B) Benign ovarian cyst
- (C) Diverticulitis
- (D) Ectopic pregnancy
- (E) Endometriosis
- (F) Ovarian carcinoma
- (G) Pelvic inflammatory disease
- (H) Psychogenic pain
- (I) Urinary tract calculus
- (J) Uterine leiomyoma