1) **Insulin causes reduction in blood sugar level by the following mechanisms, EXCEPT**: a) Increased glucose uptake in the peripheral tissue b) Reduction of breakdown of glycogen c) Diminished gluconeogenesis d) Decreased glucose absorption from the gut	**D**
2) **Insulin can not be administered by:** a) Oral route b) Intravenous route c) Subcutaneous route d) Intramuscular route.	**A**
3) **Correct statements about crystalline (regular) insulin include all of the following, EXCEPT:** a) It can serve as replacement therapy for juvenile□onset diabetes b) It can be administered intravenously c) It is a short-acting insulin d) It can be administered orally	D
4) **Diabetic coma is treated by the administration of:** a) Lente insulin b) Glucose c) Crystalline insulin d) Oral anti-diabetic drugs	B
5) **The following is peakless insulin preparation:** A. Regular insulin. B. NPH insulin. C. Zinc insulin. D. Insulin galrgine. E. Lispro insulin	D

6) Which of the following is an important effect of insulin? A. Increased conversion of amino acids into glucose B. Increased gluconeogenesis C. Increased glucose transport into cells D. Inhibition of lipoprotein lipase E. Stimulation of glycogenolysis	C
7) Which of the following agents should be administered to achieve rapid control of the severe ketoacidosis in a diabetic boy? A. Regular insulin B. Glyburide C. Insulin glargine D. NPH insulin E. Tolbutamide	A
8) Which of the following is the most likely complication of insulin therapy? A. Hypoglycemia B. Increased bleeding tendency C. Pancreatitis D. Severe hypertension	A
9) The following regimens is Most appropriate for tight control of diabetes mellitus: A. Morning injections of mixed insulin lispro and insulin aspart. B. Evening injections of mixed regular insulin glargine. C. Morning and evening injections of regular insulin, supplemented by small amounts of NPH insulin at mealtimes. D. Evening injections of insulin glargine, supplemented by small amounts of insulin lispro at meal times.	D
10) The following is a long acting insulin preparation: A. Regular insulin. B. NPH insulin. C. Insulin detemir D. Lispro insulin	**C**

11) Which of the following is not Adverse effects of insulin a) Hypokalemia b) Weight gain c) Hyperglycemia d) Allergy e) Lipodystrophy	C
12) Which of the following insulins would provide a patient diagnosed with type 1 diabetes mellitus a constant release of insulin over a 24-hour period? a) insulin aspart b) insulin glargine c) insulin lispro d) NPH Insulin e) regular insulin	B
13) The preparation of insulin for start of treatment of diabetic ketoacidosis is: a) Lente insulin b) N.P.H c) Soluble insulin d) Insulin glargine e) Ultra short insulin	**C**
14) A 13-year-old boy with type 1 diabetes is brought to the hospitalcomplaining of dizziness. Laboratory findings include severe hyperglycemia,ketoacidosis, and a blood pH of 7.15. Which of the following agents should be administered to achieve rapid control of the severe ketoacidosis in this diabetic boy? a) Crystalline insulin b) Glyburide c) Insulin glargine d) NPH insulin e) Tolbutamide	A

15) Which of the following statements is correct regarding insulin glargine? a) It is primarily used to control postprandial hyperglycemia. b) It is a "peakless" insulin. c) The prolonged duration of activity is due to slow dissociation from albumin. d) It should not be used in a regimen with insulin lispro or glulisine e) It may be administered intravenously in emergency cases	B
16) A 45-year-old man with insulin-dependent diabetes mellitus on insulin injection decides that he wants to "drink" the insulin instead of taking the injection form. He is tired of the pain he gets during the injections. Which of the following is the most likely sequelae of this action? a) Diarrhea b) Nausea c) Persistent hyperglycemia d) Transient ischemic attack e) Uremia	C
17) The primary route of administration of insulin is: a) Intradermal b) Subcutaneous c) Intramuscular d) Intravenous	**B**
18) There is no alternative to insulin therapy for: a) All type 1 diabetes mellitus patients b) All type 2 diabetes mellitus patients c) Type 2 diabetes patients not controlled by a sulfonylurea drug d) Type 2 diabetes patients not controlled by a biguanide drug	A
19) DW is a patient with type 2 diabetes who has a blood glucose of 400 mg/dL today at his office visit. The physician would like to give some insulin to bring the glucose down before he leaves the office. Which of the following would lower the glucose in the quickest manner in DW? a) Insulin aspart. b) Insulin glargine. c) NPH insulin. d) Regular insulin	**A**

20) A 28-year-old man who is obese is found to have a hemoglobin A1c of 9.5%. He has been unable to adequately control his blood sugar with diet and exercise alone. His physician wishes to prescribe an insulin product to help control his blood sugar level. Which of the following is the longest acting to provide this patient a low, baseline insulin dose that will last throughout the day? a) Insulin aspart b) Insulin glargine c) Insulin lispro d) Lente insulin e) NPH insulin	B
21) Insulin therapy is required for the following category/categories of type 2 diabetes mellitus patients: a) Patients with ketoacidosis b) Patients undergoing surgery c) Pregnant diabetic d) All of the above	D
22) Effects of insulin do not include: a) Decreased conversion of amino acids into glucose. b) Decreased gluconeogenesis. c) Increased glucose transport into cells. d) Induction of lipoprotein lipase. e) Stimulation of glycogenolysis.	E
23) Which of the following actions most likely mediated the therapeutic effect of insulin in the patient's disease? A. Inhibition of the activity of dipeptidyl peptidase-4 B. Incorporation of glucose transporters in thecell membrane C. Activation of enzymes of the gluconeogenesis pathway D. Inhibition of the tyrosine kinase activity of the insulin receptor	B

24) **A 13-year-old boy with type 1 diabetes received his morning injection of a mixture of insulin lispro and glargine. A few hours later, he was found unconscious in his room. His heart rate was 120 bpm and body temperature 34.8°C, and tetanic contractions of skeletal muscles were present. Which of the following would be the immediate appropriate treatment for this patient?** A. Regular insulin intravenous B. Oral glucose C. Glucagon intramuscular (IM) D.Oral metformin E. Exenatide IM	C
25) **A 42-year-old woman recently diagnosed with SLE started a treatment with a high daily dose of prednisone. The woman had a history of type 1 diabetes currently controlled with two daily administrations of premixed insulin, Which of the following changes in the patient's antidiabetic regimen should be made at this time?** A. Decrease the daily insulin dosage. B. Increase the daily insulin dosage. C. Add glyburide to the antidiabetic regimen. D. Add exenatide to the antidiabetic regimen. E. Add sitagliptin to the antidiabetic regimen.	B
26) **A 12-year-old boy presents with polyuria, polydipsia, and weight loss. Lab results:** - Fasting glucose: 210 mg/dL - HbA1c: 9.2% - Positive ketones in urine **: What is the most appropriate initial treatment?** a) Metformin + lifestyle changes b) Subcutaneous insulin glargine + mealtime insulin lispro c) Sulfonylureas + acarbose d) D) Diet control alone	B
27) **The boy's parents ask why oral antidiabetics are not used. Your response:** a) He needs rapid glucose control. b) Type 1 DM results from beta-cell destruction; insulin is mandatory. c) Oral drugs are toxic in children. d) D) He will develop resistance to pills.	**B**

28) He develops hypoglycemia at night. Which insulin adjustment is needed? - A) Reduce glargine dose - B) Switch to premixed insulin - C) Discontinue metformin - D) Add a glitazone	A
29) Which of the following is true in regard to insulin? a) It needs opening of K+ channels to be secreted from β -cells b) It needs closure of K+ channels to be secreted from β -cells c) It needs closure of Ca+2 channels to be secreted from β -cells d) The ADP is responsible for secretion of insulin	B
30) The primary reason for a physician to prescribe human insulin is: a) It has a faster onset of action than other insulins b) It has a shorter duration of action than other insulins. c) It can be given to patients who have an allergy to animal insulins d) It is more effective in preventing the complications of diabetes than animal insulins. e) It is cheaper than other insulins because it is produced by recombinant technology.	C