

URANIUM TALENT SEARCH EXAMINATION (UTSE) - 2015

(CBSE/ICSE)

Time: 60 minutes(2 pm - 3 pm)

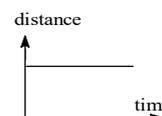
Class- VII

F.M - 180(+3/-1 system)

Declaration of Result in the internet(www.theuranium.org) : 03.03.2015

(There are 60 MCQs and each has one correct answer. 3 marks will be given for each correct answer and 1 mark will be deducted for each wrong answer.)

- Which of the following is true about heat and temperature ?
 - temperature of a body can increase even while its heat energy remains constant
 - the speed of motion of particles of a body increases when its temperature increases
 - if two bodies having different masses have the same temperature, then their heat energies should also be the same
 - all the above are correct
- Suppose you are walking outside in a winter day. Then which of the following will happen ?
 - heat will be transferred from outside to your body, so you shall feel colder.
 - heat will be transferred from your body to outside, so you shall feel colder.
 - the temperature of your body will decrease, so you shall feel colder
 - there will be no transfer of heat
- In which of the following the heat transfer takes place by convection process ?
 - copper wire
 - vacuum(empty space)
 - air
 - mercury
- Which of the following is a good conductor of heat ?
 - wood
 - wool
 - rubber
 - graphite
- Which of the following coloured dress will make you feel warmest if you wear ?
 - black
 - white
 - violet
 - red
- Which state of a body is represented by the graph given ?
 - moving in uniform speed
 - body is at rest
 - moving in nonuniform speed
 - none of these
- Suppose the distance between your house and your Mamaji's house is 60 Km. You took 30 minutes to cover the first 24 Km while for the rest distance you took one and half hours. Then what is your average speed in the journey to your Mamaji's house ?
 - 0.5 Km/h
 - 72 Km/h
 - 30 Km/h
 - 36 Km/h



Rough Space

8. Suppose your school is 3 Km away from your home. You went to your school at the speed of 10 m/s. What time did you take to reach your school ?

- (a) 500 mins (b) 30 mins (c) 0.3 hr (d) 5 mins

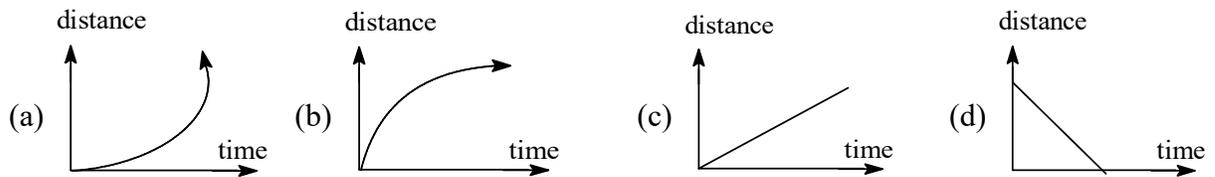
9. We took two simple pendulums. One has a thread length of 10 cm and the other 20 cm. When two pendulums were allowed to oscillate, which of the following is correct about the time period of the pendulums ?

- (a) time periods of pendulums are same
 (b) the time period for pendulum having 10 cm thread length is twice that of the other
 (c) the time period for pendulum having 10 cm thread length is less than the other
 (d) cannot be predicted as mass data are not given

10. The time and the corresponding distance travelled by a motor cyclist from his home is given in the following table.

time(min)	distance(m)	time(min)	distance(m)
0	0	40	160
20	100	80	200

Then which of the following graphs correctly represents the motion of the motor cycle ?



11. Which of the following will correctly represent a battery ?

- (a) (b) (c) (d) both b & c

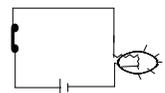
12.. Which of the following is correct about an electric circuit according to the given diagramme ?

(a) the circuit is closed and current is entering into the bulb from above and going out in the downward direction.

(b) the circuit is open and current is entering into the bulb from below and going out in the upward direction.

(c) the circuit is open and current is entering into the bulb from above and going out in the downward direction.

(d) the circuit is closed and current is entering into the bulb from below and going out in the upward direction.



13. What electrical appliance is used nowadays in place of fuse ?

- (a) CFL (b) miniature circuit breaker (c) MCP (d) filament bulb

Rough Space

14. Electric current was passed through a wire which is wound around a screw. Which of the following is correct about the screw ?
- (a) it acts as a magnet even after the current stops flowing through it
 - (b) it acts as magnet only when the current flows through it
 - (c) it acts as magnet even if current does not flow through it
 - (d) none of these
15. If you blow air in front of your mouth while standing upright, which of the following will happen ?
- (a) pressure of air in front of your mouth will increase
 - (b) pressure of air in front of your mouth will decrease
 - (c) pressure of air in front of your mouth will not change
 - (d) none of these
16. Inflate a balloon by blowing air into it by your mouth. Then tie it on the open end of a glass tube in the inflated state. Leave it for some time and now observe the size of the balloon. Then put the tube in boiling water for some time. What shall you observe now ?
- (a) size of balloon will remain unchanged
 - (b) size will decrease
 - (c) size will increase
 - (d) cannot be predicted
17. What happens in the region near the equator of earth during winter ?
- (a) moist air from ocean flows to land
 - (b) dry air from ocean flows to the land
 - (c) moist air from land flows to ocean
 - (d) dry air from land flows to ocean
18. What happens when water vapour condenses to liquid water ?
- (a) absorbs heat from atmosphere
 - (b) change of temperature takes place
 - (c) neither absorbs nor evolves heat
 - (d) evolves heat to the atmosphere
19. You have taken some boiled water in a closed tin container. There is some empty space above boiled water containing air and water vapour. You poured some cold water over the tin container from outside. The tin container is compressed inwards with a cracking sound. The reason for this is
- (a) more water vapour is formed in the empty space inside the container
 - (b) temperature inside the container decreased
 - (c) the air pressure inside the container becomes more than the outside air pressure
 - (d) the air pressure inside the container becomes less than the outside air pressure
20. If you write the word **ZEBRA** in a paper and hold it in front of a plane mirror and observe it through the mirror, what shall you read in the mirror ?
- (a)
 - (b)
 - (c)
 - (d)
21. Keep a burning candle in front of a concave mirror. Adjust the separation between the mirror and candle so as to capture the image of candle on a screen in front of the mirror and behind the candle(i.e farther away from candle).. In such case what will be properties of the image ?
- (a) inverted and smaller
 - (b) erect and smaller
 - (c) inverted and larger,
 - (d) erect and larger

Rough Space

22. What kind of mirrors respectively are the outer(unused part) and inner(used part) side of a steel spoon's upper part ?
 (a) concave, convex (b) convex, concave (c) convex, plane (d) plane, concave
23. Which reason is responsible for a viewing an object for example a cup of tea?
 (a) the reflected rays from the object falling in our eyes
 (b) light from our eye falling on the object
 (c) light emitted by the object falling on our eyes (d) none of these
24. What will be the colour of litmus solution when it is mixed with *Amla* juice ?
 (a) red (b) blue (c) purple (d) colourless
25. What will be the nature of the aqueous solution of baking soda(sodium hydrogen carbonate) ?
 (a) acidic (b) basic (c) neutral (d) cannot be said
26. Add some soap solution in the solution of turmeric powder. What colour will develop ?
 (a) blue (b) yellow (c) rose red (d) colourless
27. Which of the two solutions on mixing will form a salt ?
 (a) $\text{Ca}(\text{OH})_2$, washing soda (b) HCl , vinegar
 (c) lime water, vinegar (d) NaOH , antacid tablet
28. Salt is formed by the neutralisation reaction of an acid with a base. Then the aqueous solution of such salt will be
 (a) neutral (b) acidic (c) basic (d) neutral, basic or acidic depending on salt type
29. What happens first when carbon dioxide gas is bubbled through a calcium hydroxide solution ?
 (a) turns milky white (b) turns yellow
 (c) turns reddish brown (d) remains colourless
30. The wall turns white after sometime when a coating of lime solution is applied on it(white washing). For which chemical it turns white ?
 (a) calcium hydroxide (b) calcium carbonate
 (c) calcium bicarbonate (d) sodium carbonate
31. You prepared a solution by dissolving common salt in water. What type of change is this ?
 (a) chemical (b) physical (c) both physical and chemical (d) none
32. What change will happen to sugar when it mixed with concentrated sulphuric acid ?
 (a) a solution of sugar in sulphuric acid (b) carbon dioxide gas and water
 (c) sulphur and carbon (d) carbon and water
33. Which is not correct about chemical change ?
 (a) permanent (b) can be exothermic(heat evolving) or endothermic(heat absorbing)
 (c) reversible (d) mass of the substance undergoing change can increase or decrease

Rough Space

34. From which latin word the symbol of mercury has been derived ?
 (a) aurum (b) plumbum (c) hydragyrum (d) argentum
35. How many H and C atoms respectively are present in one formula unit of sucrose(table sugar) ?
 (a) 12, 12 (b) 22, 12 (c) 12, 6 (d) 22, 11
36. Which of the following elements ranks 3rd highest in abundance in earth crust ?
 (a) Si (b) O (c) Fe (d) Al
37. How many atoms of each element are present in one molecule of washing soda ?
 (a) H=20, O=13, C=1, Na=2 (b) Na =2, C=1, O =3
 (c) H =1, Na =1, C =1, O=3 (d) Ca =1, O =2, H =2
38. In which of the following pairs only nonmetal and metalloid are present ?
 (a) As, P (b) I, O (c) Pb, As (d) Ag, Na
39. Which of the following solids melts by appying heat ?
 (a) sodium chloride (b) ammonium chloride (c) iodine (d) naphthalene
40. Which of the following substances always possesses the volume which is equal to the volume of the container carrying that substance ?
 (a) solid (b) liquid (c) gaseous (d) all of these
41. The freezing point of water and melting point of ice respectively are
 (a) 0°C, 100°C (b) 100°C, 0°C (c) 0°C, 0°C (d) 100°C, 100°C
42. Which kind of wool is prepared from *Bakharwal* breed of sheep ?
 (a) shawl (b) carpet (c) brown fleece (d) course wool
43. Which silk moth gives soft, lustrous and elastic fibres ?
 (a) tassar (b) mulberry (c) eri (d) mooga
44. What kind of food is prepared by plants with the help of carbon dioxide and water ?
 (a) protein (b) fat (c) carbohydrate (d) vitamin
45. The name of the enzyme responsible for digestion of fats and the organ of human body which secretes it respectively are
 (a) insulin, pancreas (b) bile juice, small intestine (c) fatty acid, liver (d) bile juice, liver
46. When chewed boiled rice is treated with iodine solution, it develops certain colour. Which of the following is correct about the experiment ?
 (a) starch present in rice reacts with iodine to form brown solution
 (b) cellulose present in rice forms blue solution with iodine
 (c) starch present in rice reacts with iodine to form a blue solution
 (d) starch present in rice forms a yellow solution with iodine
47. The lower and upper chambers of human heart are respectively called
 (a) atria, ventricles (b) ventricles, atria (c) both ventricle (d) both atria
48. The proper sequence of formation and excretion of urine is
 (a) kidney-urinary bladder-ureter-urethra (b) kidney-ureter-urinary bladder-urethra
 (c) ureter-kidney-urinary bladder-urethra (d) kidney-urethra-urinary bladder-ureter

49. Suppose today the humidity in atmosphere is greater than that present yesterday. Your mother has put your wet dress on the terrace in a shade for drying. Which of the following is correct about drying of your dresses between today and yesterday ?
- (a) today the dress will dry up later (b) yesterday dress dried up later
(c) same time needed for drying today as for yesterday
(d) drying of dress does not depend on humidity
50. Which is correct regarding climate and weather ?
- (a) the average atmospheric pattern taken over a long time (say 25 years) is called weather
(b) climate is the weather conditions of a place on a particular day
(c) climate and weather are used for the same meaning
(d) the average weather pattern taken over a long time (say 25 years) is called climate
51. Which animal has the adaptation to the climatic conditions in the polar region ?
- (a) white furred bear (b) penguin (c) both a & b (d) none
52. The Japanese call the cyclone as
- (a) thunderstorm (b) tornado (c) hurricane (d) typhoon
53. Which of the following mixture forms loam ? ?
- (a) sand + silt + clay (b) sand + clay (c) sand + silt (d) silt + clay
54. Which soil has the minimum water retention capacity ?
- (a) clay (b) sand (c) loam (d) all same
55. In the absence of oxygen glucose breaks down to
- (a) $\text{CO}_2 + \text{H}_2\text{O}$ (b) alcohol + H_2O (c) alcohol + CO_2 (d) only alcohol
56. During inhalation what happens to diaphragm ?
- (a) moves up (b) moves down (c) does not move (d) none of these
57. The gases used for the respiration in animals and plants respectively are
- (a) CO_2 , O_2 (b) CO_2 , CO_2 (c) O_2 , CO_2 (d) O_2 , O_2
58. Moss reproduce by which process ?
- (a) fragmentation (b) sexual (c) budding (d) spore
59. Which of the following produce bisexual flowers ?
- (a) papaya (b) cucumber (c) mustard (d) palm
60. The transfer of pollen from anther to stigma of flowers is called
- (a) fertilization (b) sexual reproduction (c) pollination (d) fragmentation

Answer Keys

1. b 2. b 3. c 4. d 5. a 6. b 7. c 8. d 9. c 10. b 11. b 12. a 13. b
14. b 15. b 16. c 17. d 18. d 19. d 20. a 21. c 22. b 23. a 24. a 25. b 26. c
27. c 28. d 29. a 30. b 31. b 32. d 33. c 34. c 35. b 36. d 37. a 38. a 39. a
40. c 41. c 42. a 43. b 44. c 45. d 46. c 47. b 48. b 49. a 50. d 51. c 52. d
53. a 54. b 55. c 56. b 57. d 58. d 59. c 60. c