National University of Technology (NUTECH)

Program :	Bachelor of Engineering	Duration :	3 Hrs
Total Questions :	200		

Section : English

1) **Antonym of myopic is:**

(a). Short Sighted

(b). Feeble Minded

(c). Fore Sighted

(d). Long Sighted

2) **A person who constantly calls attention to his trails and sufferings is in danger of developing a martyr complex and impressing others that he is_____seeking sympathy.**

(a). Consciously

(b). Willingly

(c). Purposefully

(d). Emphatically

3) Although her report on the effects of electromagnetic radiation was lengthy, the presentation she _____ rather succinct.

(a). held was

(b). held

(c). is held

(d). was held

4) The authorities, fearing a _____ of their power, called for a military state in the hopes of restoring order.

(a). subversion

(b). premonition

(c). predilection

(d). infusion

5) Hygrometer is to Humidity as Sphygmomanometer is to ————

(a). Pressure

(b). Blood Pressure

(c). Precipitation

(d). Heartbeat

Section : Chemistry

6)   The reaction of an aldehyde or a ketone with a primary amine forms

(a). an imine

b). a semicarbazone.

(c).   Schiff base.

(d). Both 1 and 3

7)   Carbinolamines dehydrate to give

(a). Substituted aldehydes

(b). Substituted amines

(c).   Substituted imines

(d). Substituted alcohols

8) What do we call to the sudden expansion of plasma?

(a). Avogadro's law

(b). Grahams law of diffusion

(c). Joule Thompson effect

(d). Daltons law of partial pressure

9) Device that measures heat flow is called

(a). Amperemeter

(b). Barometer

(c). Polarimeter

(d). Calorimeter

10) If we add HNO3 to the original vanadium solution it produces

(a). blue ions

 (b). green ions

(c). dull grey blue ions

(d). pink ions

Section : Mathematics

11) For what value of k will equation $x^2 - kx + 4 = 0$, have sum of roots equal to product of roots?

(a). 3

(b). - 2

(c).   - 4

(d). 4

12) A Set having only one element is called

(a). an empty set

(b). universal set

(c).   A singleton set

(d). A power set

13) The ordered pairs(a,b) and (a,d) are equal if and only if

(a). b=d

(b). b=c

(c). b=a

(d). a=d

14) The symbol which is used to denote negation of a proposition is

(a). ~

(b). -+

(c). a

(d). v

15) A square matrix A = {aij}is lower triangular matrix when…................................

(a). aij = 0 for all i < j

(b). aij = 0 for all i > j

(c). aij / 0 for all i < j

(d). aij / 0 for all j < i

16) For two independent events A and B, P(A)=0.6, P(B)=0.3, P(A∩B) is:

(a). 0.9

(b). 0.12

(c). 0.5

(d). 0.18

17) The property used in the equation 3 x (7 x 9) = (3 x 7) x 9 is

(a). closure property with respect to division

(b). associative property with respect to multiplication

(c). associative property with respect to addition

(d). closure property with respect to addition .

18) Straight line angle is equal to

(a). 0.5 rotation

(b). Pi rad

(c). 180 degrees

(d). All of these

19) The power set of a set S containing six numbers is the set whose elements are

(a). three subsets of S

(b). two subsets of S

(c). five subsets of S

(d). all possible subsets of S

20) The set of odd numbers between 1 and 9 is

(a). {1, 3, 5, 7}

(b). {3, 5, 7, 9}

(c). {1, 3, 5, 7, 9}

(d). {3, 5, 7}

Section : Physics

21) Hadrons are the particles that experience

(a). the strong nuclear force

(b). the weak nuclear force

(c). only the gravitational force

(d). only the electromagnetic force

22)   Mass differs from weight in that

(a). all objects have weight but some lack mass

(b). weight is a force and mass is not

(c).   the mass of an object is always more than its weight

(d). mass can be expressed only in the metric system

23) If an 800N man hangs motionless from 4 vertical strangds of rope, then the tension in each strand of rope is

(a). 0 N

(b). 200 N

(c). 400 N

(d). 800 N

24) The work done by non-conservative force around a closed path is

(a). not zero

(b). zero

(c). maximum

(d). minimum

25) The force F applied to two bodies yeilds a work W and 2W respectively. The distance covered by two bodies is:

(a). d,d

(b). d,2d

(c). 2d,d

(d). d,d/2

26) Light with an intensity of 1 kW/m^2 falls normally on a surface and is completely reflected. The radiation pressure is

(a). 1kPa

(b). 3×10^11Pa

(c). 1.7 × 10^−6 Pa

(d). 6.7 × 10^−6 Pa

27) A tuning fork A of frequency 256 Hz produces 3 beats/sec with another tuning fork B, The frequency of tuning fork B is _____

(a). 256

(b). 253

(c). 256 ± 3

 (d). 259

28) Hadrons are the particles that experience

(a). the strong nuclear force

(b). the weak nuclear force

 (c). only the gravitational force

(d). only the electromagnetic force

29) Suitable units for the gravitational constant G are

(a). kg.m/s^2

(b). kg.m/s

(c). N.m/s

(d). m^3/(kg.s^2)

30) Mass differs from weight in that

(a). all objects have weight but some lack mass

(b). weight is a force and mass is not

(c). the mass of an object is always more than its weight

(d). mass can be expressed only in the metric system