SECTION A

1.

Guru Gopinath was an exponent of which form of dance?

(A)
Kathak
(B)
Kathakali
(C)
Kuchipudi
(D)
Bharatnatyam

Answer: Kathakali

2.

Dr. Syama Prasad Mookerjee National Institute of Water and Sanitation (SPM-NIWAS) has inaugurated in which city?

(A)
Chennai
(B)
Kolkata
(C)
Mumbai
(D)
Bengaluru

Answer: Kolkata

3.

Australia has recently signed a new security treaty with which country?

(A)
India
(B)
China
(C)
Papua New Guinea
(D)
Maldives

Answer: Papua New Guinea

4.

Acid rain is caused by an increase in the concentration of?

(A)
SO_2 and NO_2
(B)
CO and CO_2
(C)
CO and SO_3
(D)
O_3 and dust

Answer: SO_2 and NO_2

5.

Which of the following statements about Mahatma Gandhi's views on Satyagraha is not correct?

(A)

It denotes assertion of the power of the human soul against social political and economic dominance

(B)

It is the exercise of the purest soul force against all injustice oppression and exploitation

(C)

It is the best weapon of the weak against the strong

(D)

Mahatma Gandhi’s theory of Satayagraha was based on the acceptance of the concept of self-suffering

Answer: It is the best weapon of the weak against the strong

6.

According to which Constitutional Amendment defectors have no more protection on grounds of splits?

(A)
91st
(B)
96th
(C)

99th
(D)
100th

Answer: 91st

7.

Which of the following hill stations is known as mini Munnar?

(A)
Kallar
(B)
Ambanad
(C)
Agali
(D)
Pachmarhi

Answer: Ambanad

8.

What is ‘2011 AG5’, which was seen in the news?

(A)
Meteor
(B)
Exo-planet
(C)
Asteroid
(D)

Star

Answer: Asteroid

9.

ULTRASAT, is the first telescope mission of which country?

(A)
UAE
(B)
Israel
(C)
Iran
(D)
France

Answer: Israel

10.

Which Indian shuttler holds the tops spot in the men’s singles category in BWF World Tour Rankings?

(A)
K Srikanth
(B)
HS Prannoy
(C)
Lakshya Sen
(D)
Chirag Shetty

Answer: HS Prannoy

11.

Which of the following term does NOT represent electrical power in circuit?

(A)
I2R
(B)
IR2
(C)
VI
(D)
V2/R

Answer: IR2

12.

Magnetic keepers are pieces of__:

(A)
Nickel
(B)
Cobalt
(C)
Steel
(D)
Soft iron

Answer: Soft iron

13.

A galvanometer can be converted into a voltmeter by connecting with it a__:

(A)
high resistance in parallel
(B)
low resistance on parallel
(C)
high resistance on series
(D)
low resistance in series

Answer: high resistance on series

14.

The moderator used in a nuclear reactor is:

(A)
Uranium
(B)
Radium
(C)
Ordinary water
(D)
Graphite

Answer: Ordinary water

15.

Which of the following elements does not exhibit natural radioactivity?

(A)
Uranium
(B)
Thorium
(C)
Aluminium
(D)
Polonium

Answer: Aluminium

16.

Which of the following particles were made to fall on a thin gold foil by Ernest Rutherford?

(A)
Gamma
(B)
Beta
(C)
Electron
(D)
Alpha

Answer: Alpha

17.

Which of the following state of India touches maximum state boundaries?

(A)
Karnataka
(B)
Madhya Pradesh
(C)
Uttar Pradesh
(D)
Andhra Pradesh

Answer: Uttar Pradesh

18.

What is the name of the Hydrogen that is produced from a carbon-free nuclear power?

(A)
Green Hydrogen
(B)
White Hydrogen
(C)
Pink Hydrogen
(D)
Orange Hydrogen

Answer: Pink Hydrogen

19.

What is the name of the Indigenous mobile operating system developed by IIT Madras?

(A)
IndOS

(B)
BharOS
(C)
MadrasOS
(D)
TamilOS

Answer: BharOS

20.

Who is the first Indian woman wrestler to win two medals at the World Championships?

(A)
Vinesh Phogat
(B)
Sakshi Malik
(C)
Babita Kumari
(D)
Divya Kakran

Answer: Vinesh Phogat

SECTION B

21

Name the site where digestion of proteins occurs.

(A)
Pancreas
(B)
Rectum
(C)
Liver
(D)
Ileum

Answer: (D) Ileum

22

Where are the parotid glands located?

(A)
Below the stomach
(B)
Behind and above the pancreas
(C)
Below and in front of the ear canal
(D)
Underneath the armpits

Answer: (C) Below and in front of the ear canal

23

Humans have _____ lobes in the left lung.

(A)

3
(B)
2
(C)
4
(D)
1

Answer: 2

24

The innermost layer of cell inside your eye is called the

(A)
Mucus membrane
(B)
Conjunctiva
(C)
Retina
(D)
Choroid

Answer: Retina

25

Cell sap is a

(A)
Living content of the cell
(B)

Non living content of the vacuole

(C)

Non-living content of the protoplasm

(D)

Living content of the cytoplasm

Answer: Non living content of the vacuole

26

Which blood vessel carries the least amount of urea?

(A)

Pulmonary vein

(B)

Renal artery

(C)

Renal vein

(D)

Hepatic portal vein

Answer: Renal vein

27

Which of the following facilitates reabsorption of water by nephron?

(A)

Medulla

(B)

Cortex

(C)

Pelvis

(D)
Loop of nephron

Answer: Loop of nephron

28

"Fill in the blanks:
Ultrasound is a _____"

(A)
Electromagnetic radiation
(B)
Gravitational radiation
(C)
Acoustic Radiation
(D)
Particle Radiation

Answer: Acoustic Radiation

29

Absorptivity of the grey body

(A)
varies with temperature
(B)
varies with wavelength of the incident ray
(C)
varies with wavelength and temperature of the incident ray

(D)
does not vary with wavelength and temperature of the incident ray

Answer: does not vary with wavelength and temperature of the incident ray

30

X-rays are

(A)
Stream of electrons
(B)
Stream of positively charged particles
(C)
Electromagnetic radiations of high frequency
(D)
Stream of uncharged particles

Answer: Electromagnetic radiations of high frequency

31

Whose unit is light year?

(A)

Distance
(B)
Time

(C)
Age
(D)
Light intensity

Answer: Distance

32

An object is placed at a distance of 10 cm in front of a double convex lens made of glass of refractive index 1.5. Both the radii of curvature of the lens are 20 cm in magnitude. What is the position of the image formed?

(A)
-35 cm
(B)
10 cm
(C)
-20 cm
(D)
20 cm

Answer: -20 cm

33

A machine gun fires 60 bullets per minute with a velocity of 700 m/s. If each bullet has a mass of 50 g. the power developed by the gun is:

(A)
250 W
(B)
50 W

(C)
12250 W
(D)
2250 W

Answer: 12250 W

34

In X-ray emission tubes, X-ray is emitted by the acceleration of _____

(A)
Atoms
(B)
Protons
(C)
Electrons
(D)
Neutrons

Answer: Electrons

35

X-rays possess electromagnetic character.

(A)
TRUE
(B)
FALSE
(C)
Can't say
(D)
insufficient data

Answer: TRUE

36

Name the natural and celestial source of X-ray in universe.

(A)
Stars
(B)
Quasars
(C)
ack Holes
(D)
Nebula

Answer: ack Holes

37

X-rays are weightless.

(A)
TRUE
(B)
FALSE
(C)
Can't say
(D)
insufficient data

Answer: TRUE

38

X-rays are used with computer in _____

(A)
CT Scan
(B)
CAT Scan
(C)
CA Scan
(D)
AT Scan

Answer: CAT Scan

39

What is the relation between the interaction parameter, ‘b’, and atomic radius, R, for the Compton Effect?

(A)
b > R
(B)
b ≈ R
(C)
b < R
(D)
No relation between b and R

Answer: b ≈ R

40

What kind of photon is required for the Compton effect to occur?

(A)
Visible Light Photon
(B)
X-ray Photon
(C)
Infrared
(D)
UV Photon

Answer: X-ray Photon

41

X rays of wavelength 0.15 nm are scattered from a block of carbon. What is the wavelength of X-rays scattered at 00?

(A)
0.15 nm
(B)
0.154 nm
(C)
0.165 nm
(D)
0.178 nm

Answer: 0.15 nm

42

When an electron jumps from an excited state to ground state it _____

(A)

Emits a photon having energy 13.6 eV

(B)

Absorbs a photon having energy 13.6 eV

(C)

Emits a photon having energy the same as the energy difference between the two states

(D)

Absorbs a photon having energy the same as the energy difference between the two states

Answer: Emits a photon having energy the same as the energy difference between the two states

43

Radioactive decay of the nucleus emits _____

(A)

Ultraviolet rays
(B)
X-Rays
(C)
Infra-red
(D)
Gamma rays

Answer: Gamma rays

44

An electron makes a transition from n = 5 state to n = 2 state in the hydrogen atom. What is the frequency of the emitted photon?

(A)
4.9 X 1014 Hz
(B)
5.9 X 1014 Hz
(C)
6.9 X 1014 Hz
(D)
7.9 X 1014 Hz

Answer: 6.9 X 1014 Hz

45

Air lock in fuel line will cause

(A)

Engine idling high

(B)

Injector pressure is too high

(C)

Late starting and erratic running

(D)

Excess delivery from FI pump

Answer: Late starting and erratic running

46

What is ovality of a bore?

(A)

Difference in dia measured top to bottom

(B)

Difference in dia thrust to non thrust side of cylinder

(C)

Difference in dia measured only at top

(D)

Difference in dia measured only at bottom

Answer: Difference in dia thrust to non thrust side of cylinder

47

Which of the following is not a material handling equipment?

(A)

Cranes

(B)
Lifts
(C)
Tongs
(D)
Hoists

Answer: Tongs

48

What is the typical educational requirement for a Jr. Radiographer-“ Cum-“ Receptionist-Maintenance?

(A)
High school diploma
(B)
Associate's degree in radiography
(C)
Bachelor's degree in radiology
(D)
Certification in medical reception

Answer: Associate's degree in radiography

49

The synchrotron radiation emitted is Polarize

(A)
TRUE

(B)
FALSE
(C)
Can't say
(D)
Insufficient data

Answer: TRUE

50

The celestial source of X-ray is _____

(A)
Stars
(B)
Quasars
(C)
Black Holes
(D)
Nebula

Answer: Black Holes

51

X-ray crystallography uses which characteristic of light?

(A)
Polarization
(B)
Interference

(C)
Diffraction
(D)
Coherency

Answer: Diffraction

52

What should be the minimum distance maintained when an X-Ray is being taken?

(A)
10 m
(B)
15 m
(C)
35 m
(D)
50 m

Answer: 50 m

53

The X-Ray is recorded on a plate coated with _____

(A)
Gold Halide
(B)
Silver Halide
(C)
Copper Halide

(D)
Iron Halide

Answer: Silver Halide

54

Acoording to medical procedures, what is the distance to be maintained while taking X ray?

(A)
10 m
(B)
50 m
(C)
15 m
(D)
35 m

Answer: 50 m

55

Size of the bitewing film is

(A)
32×41mm
(B)
22×35mm
(C)
57×76mm
(D)

75×90mm

Answer: 32×41mm

56

X ray films are insensitive to which light

(A)
Yellow and red
(B)
Red
(C)
White
(D)
Blue and green

Answer: Yellow and red

57

Which of the following is the bulb watt used in dark room

(A)
5 watts
(B)
10 watts
(C)
15 watts
(D)
20 Watts

Answer: 15 watts

58

The overall heart size in tetralogy of Fallot is usually

(A)
Markedly enlarged
(B)
Normal or relatively small
(C)
Slightly enlarged
(D)
Moderately enlarge

Answer: Moderately enlarge

59

In Urinary tract tuberculosis, frequent finding on plain film of abdomen is

(A)
Mass
(B)
leus
(C)
Calcification
(D)
Psoas abscess

Answer: Calcification

60

Cystic dilation of collecting tubules are seen in

(A)
Adult polycystic kidney
(B)
Medullary sponge kidney
(C)
Horse shoe shaped kidney
(D)
Nephroblastoma

Answer: Medullary sponge kidney

61

The X-ray finding of small intestinal malabsorption syndrome are all except

(A)
Increased transit time
(B)
mucosal atrophy
(C)
Dilatation of bowel
(D)
Flocculation of Barium

Answer: Increased transit time

62

Water soluble contrast media used for myelography is

(A)
Metrizamide
(B)
Dianosil
(C)
Conray
(D)
Iohexol

Answer: Metrizamide

63

Characteristics of Benign tumour of lung in X -ray is

(A)
Size > 5 cms diameter
(B)
Cavitation
(C)
Peripheral location
(D)
Concentric dense calcification.

Answer: Concentric dense calcification.

64

Notching of ribs on X- ray is seen in

(A)
PDA
(B)
ASD
(C)
Ebsteins anomaly
(D)
Coarctation of aorta

Answer: Coarctation of aorta

65

Gas in biliary tract is not due to

(A)
Perforated gastric ulcer
(B)
Necrotizing enterocolitis
(C)
Biliary surgery
(D)
Post-gastrectomy

Answer: Perforated gastric ulcer

66

Newborn Chest x-ray with Respiratory distress shows multiple air containing lesions in Left Hemithorax and mediastinal shift is suggestive of

(A)
Neonatal emphysema
(B)
Diaphragmatic hernia
(C)
Pneumatocele
(D)
congential lung fcysts

Answer: Diaphragmatic hernia

67

Which of the following is the best test for screening a case of proximal internal carotid artery stenosis

(A)
Digital subtraction angiography
(B)
Magnetic resonance angiography
(C)
colour Doppler ultrasonography
(D)
CT angiogram

Answer: colour Doppler ultrasonography

68

In nephrogram, one sees

(A)

Renal capillaries
(B)
Renal pelvis
(C)
Only renal cortex
(D)
Collecting tubules

Answer: Collecting tubules

69

Investigation of choice to demonstrate vesico ureteric reflex

(A)
IVP
(B)
Ultra sound
(C)
contrast MCU
(D)
Cystoscopy

Answer: contrast MCU

70

An example of sexual abuse is:

(A)
A medical employee that yells at a patient.
(B)

A medical employee that shows a resident a pornographic magazine
(C)
Not checling on a patient.
(D)
Leaving a patient on the toilet and not helping them clean up.

Answer: A medical employee that shows a resident a pornographic magazine

71

All of these are true about non-maleficence principle EXCEPT:

(A)
Includes an obligation not to inflict harm intentionally.
(B)
Includes informed consent and truth telling.
(C)
Physicians must refrain from providing ineffective treatments or acting with malice toward patients.

(D)
Offers little useful guidance to physicians because many beneficial therapies also have serious risks.

Answer: Offers little useful guidance to physicians because many beneficial therapies also have serious risks.

72
"Patient-physician privilege" best describes:

(A)
Autonomy
(B)

Justice
(C)
Truth-telling
(D)
Confidentiality

Answer: Confidentiality

73

"Which of the following are online methods of teaching?
(A) Using LMS
(B) Using video conferencing tools
(C) Chalk and Talk
(D) SWAYAM & Swayam Prabha
(E) Field based activity
Choose the correct answer from the options:"

(A)
A, B and C Only
(B)
A, B and D Only
(C)
B and D Only
(D)
D and E Only

Answer: A, B and D Only

74

One of the following is not a type of illustration.

(A)
Demonstrative illustration
(B)
Verbal illustration
(C)
Pictorial illustraiton
(D)
Non verbal illustration

Answer: Non verbal illustration

75

Brainstorming as a method can be used for:

(A)
Out-of-box thinking
(B)
Coherent thinking
(C)
Generating new ideas in the area of interest
(D)
Critical thinking

Answer: Generating new ideas in the area of interest

76

Modern teaching support system includes:

(A)
Smart Boards

(B)
Green Boards
(C)
Charts
(D)
Maps

Answer: Smart Boards

77

Pick the odd one out

(A)
Demonstrative illustration
(B)
Non verbal illustration
(C)
Verbal illustration
(D)
Pictorial illustraiton

Answer: Non verbal illustration

78

"Which among the following were examination reforms constituted by NCF 2005?
I. Introduction of grades and percentile system
II. Board exams only after class 10.
III. Introduction of open book exam
IV. Maintaining pass and fail terms in assessing exams."

(A)
I, II, and III
(B)
II, III, and IV
(C)
I, II, and IV
(D)
I, III, and IV

Answer: I, II, and III

79

Fatty tissues have

(A)
relaxation time of several seconds
(B)
relaxation time of several hundred nanoseconds
(C)
intermediate relaxation times
(D)
relaxation times of several hundred milliseconds

Answer: relaxation times of several hundred milliseconds

80

Scattered x-ray beams approach the detector screen

(A)
perpendicularly

(B)
parallel
(C)
anti-parallel
(D)
at an angle

Answer: at an angle

81

Intensity of x-rays can be increased by increasing

(A)
frequency
(B)
current
(C)
voltage
(D)
resistance

Answer: current

82

Hardness of x-ray beam can be increased by increasing

(A)
voltage
(B)
current
(C)
frequency

(D)
wavelength

Answer: voltage

83

Change in speed of ultrasound causes

(A)
reflection
(B)
diffraction
(C)
refraction
(D)
image

Answer: refraction

84

Wavelength of 2.0 MHz ultrasound waves in tissue is

(A)
7.5 × 10-4 m
(B)
8 × 10-5 m
(C)
8.5 × 10-6 m
(D)
9.2 × 10-3 m

Answer: 7.5 × 10-4 m

85

A workshop is meant for:

(A)
Hands-on experience
(B)
Listening to scholarly lectures
(C)
Learning with interaction
(D)
Discussing one’s own work

Answer: Hands-on experience

86

A good x-ray source should produce x-rays of narrow beam and

(A)
parallel x-rays
(B)
perpendicular x-rays
(C)
anti-parallel x-rays
(D)
anti-perpendicular x-rays

Answer: parallel x-rays

87

Contrast media consist of elements with

(A)
lower atomic number
(B)
higher atomic number
(C)
metalloids
(D)
inert gases

Answer: higher atomic number

88

Speed of ultrasound depends upon

(A)
medium
(B)
amplitude
(C)
material
(D)
wavelength

Answer: material

89

In x-ray production, the kinetic energy of an electron arriving at anode is

(A)
100 keV
(B)
200 keV
(C)
300 keV
(D)
400 keV

Answer: 200 keV

90

Bone thickness is equal to

(A)
cΔt/2
(B)
cΔt
(C)
c/t
(D)
t/2

Answer: cΔt/2

91

Which of the Following is Not One of the Three Major Principles Assisting the ALARA Concept?

(A)
Distance
(B)
Maintenance
(C)
Shielding
(D)
Time

Answer: Maintenance

92

Which of the Following is A Radiography Quality Control Procedure that is Usually Done Once a Year?

(A)
Cassettes and screen cleaning
(B)
Retake analysis
(C)
Safelight test
(D)
Visual inspection of cleanliness of imaging systems

Answer: Safelight test

93

Solar radiation of 1000 W/m2 is incident on a grey opaque surface with an emissivity of 0.4 and emissive power (black body) of 400 W/m2. The radiosity of the surface will be:

(A)
940 W/m2
(B)
850 W/m2
(C)
760 W/m2
(D)
670 W/m2

Answer: 760 W/m2

94

What is the equivalent emissivity for radiant heat exchange between a small body (emissivity = 0.4) in a very large enclosure (emissivity = 0.5)?

(A)
0.5
(B)
0.4
(C)
0.2
(D)
0.1

Answer: 0.4

95

Which of the following pair of scattering is important for diagnostic purposes?

(A)

Coherent and Compton
(B)
Photoelectric and Pair Production
(C)
Compton and Photoelectric
(D)
Pair Production and Disintegration

Answer: Pair Production and Disintegration

96

Treatment method of swelling from a head injury is _____.

(A)
cold compress
(B)
hot compress
(C)
medicate
(D)
leave it

Answer: cold compress

97

How should you open the airway of an unconscious causality?

(A)
Head till and chin lift
(B)
Jaw thrust
(C)
Head till and Jaw thrust
(D)
Lift the chin

Answer: Head till and chin lift

98

Traumatic hyperna

(A)
is usually associated with an afferent pupillary defect
(B)
is treated with supine position and ocuiomotor exercises
(C)
may require analgesic treatement with asprin
(D)
rearely require specific management

Answer: is usually associated with an afferent pupillary defect

99

What will be the value of the shape factor for two infinite parallel surfaces separated by a distance d?

(A)
0
(B)
∞
(C)
1
(D)
d

Answer: 1
100

The peak wavelength of radiation emitted by a black body at a temperature of 2000 K is 1.45 μm. If the peak wavelength of emitted radiation changes to 2.90 μm, then the temperature (in K) of the black body is

(A)
500
(B)
1000
(C)
4000
(D)
8000

Answer: 1000