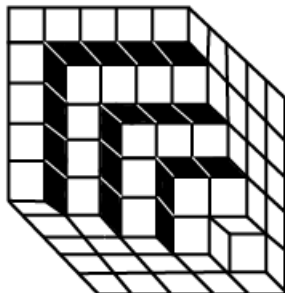# SSC JE
General Intelligence and Reasoning

Instructions

For the following questions answer them individually

Question 1

How many white cubes are there in the given structure?

A   40

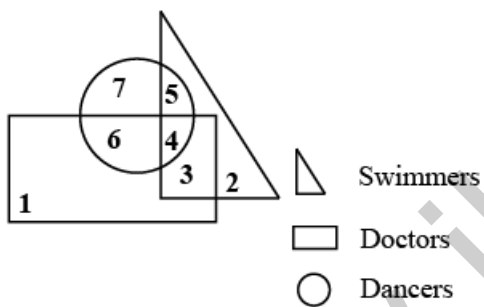**B**   65

C   16

D   24

   Answer: A

Question 2

In the following Venn diagram, identify the number which denotes Doctors who know both Swimming and Dancing.
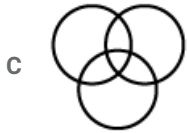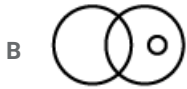

A   6

B   5

C   3

D   4

   Answer: D

Question 3

Which one of the following diagramsbest depicts the relationship among College Graduates, Professional Athletes and Great Scientists?

A

B

C

D

Answer: C

Instructions

Two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly knownfacts. You
are to decide which of the given conclusions, if any, follow from the given statments.

Question 4

Statements:
Mind is a stream of thoughts.
Mind is working all the time.
Conclusions:
I: If there is no thought, there is no mind.
II: Thoughtless people will not succeed.

A   Neither conclusions I nor II follows.

B   Both conclusion I and II follow.

C   Only conclusion I follows.

D   Only conclusion II follows.

Answer: A

Question 5

Statements:
Teachers should have empathy.
Students need empathetic approach from their teachers.

Conclusions:
I: Persons without empathy cannot become good teachers.
II: Good teachers understand the problems of their students.

A   Neither conclusion I nor II follows.

B   Both conclusion I and II follow.

C   Only conclusion I follows.

D   Only conclusion II follows.

Answer: C

Instructions
For the following questions answer them individually

Question 6

Which answer figure will complete the pattern in the question figure?

Question Figure:

A

B

C

D

Answer: B

Question 7

Select the answer figure in which the question figure is hidden/embedded.

Question Figure:

A

B

C

D
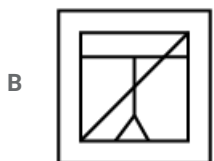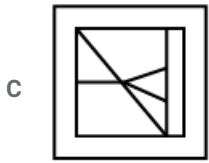
Answer: A

Question 8

A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

Question Figure:

A

B

C

D
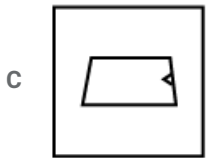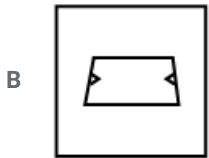
Answer: A

Question 9

Which of the answer figure is exactly the mirror image of the given figure, when the mirror is held on the line AB?

Question Figure:

A

B

C

D
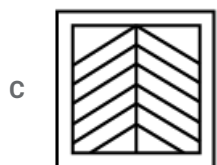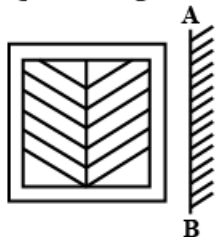
Answer: D

Question 10

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are repre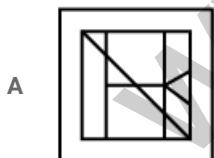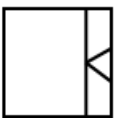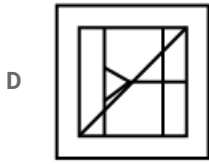sented by two classes of alphabets as in two matrices given below. The columns and rows of matrix I and II are numbered from 0 to 4.A letter from these matrices can be represented first by its row and next by its column,e.g., 'A' can be represented by 24, 31 etc. and 'P' can be represented by 11, 32, etc. Identify the set for the letters AELO.

Matrix I

	0	1	2	3	4
0	A	E	C	B	D
1	C	D	A	E	B
2	B	E	D	C	A
3	D	A	C	B	E
4	B	E	D	A	C

Matrix II

	5	6	7	8	9
5	L	M	O	N	P
6	N	P	L	M	O
7	P	M	O	L	N
8	L	N	P	M	O
9	O	N	L	P	M

A 31, 00, 23, 22

B 43, 01, 12, 42

C   12, 34, 30, 02

D   12, 30, 42, 14

  Answer: C

Instructions

Selectthe related word/letter /number/figure from the given alternatives.

Question 11

Question Figures:

A

B

C

D
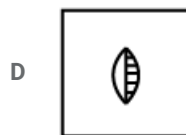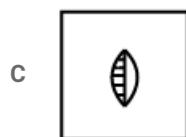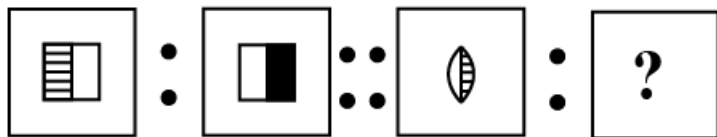
  Answer: B

Question 12

Question Figure:

A

B

C

D
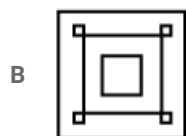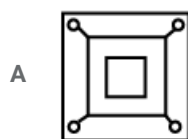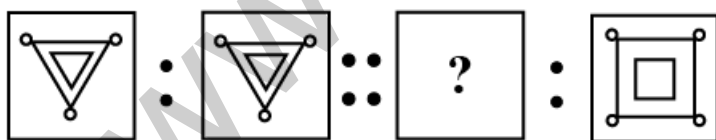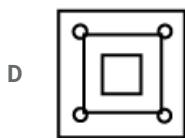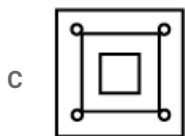
Answer: C

Question 13

Question Figures:

A

B

C

D
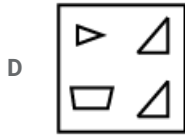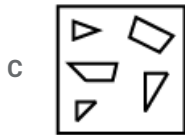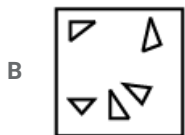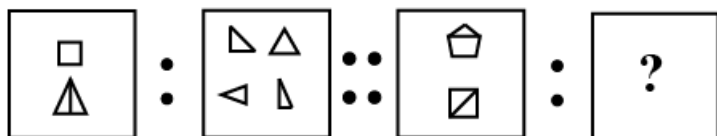
Answer: D

Question 14

? : JHKI :: TRUS : OMPN

A   GEHF

B   GEFH

C   LOMP

D   QMPN

Answer: A

Question 15

AEJO : ZVQL :: DINS : ?

A WRMH

B WSOJ

C WRNJ

D WSNI

   Answer: A

Question 16

IRTH : HQSG :: ? : RQPO

A QPON

B PQRO

C OPQR

D SRQP

   Answer: D

Question 17

16 : 64 :: 25 : ?

A 83

B 125

C 55

D 110

   Answer: B

Question 18

5 : 15 :: 40 : ?

A 60

B 45

C 120

D 55

   Answer: C

Question 19
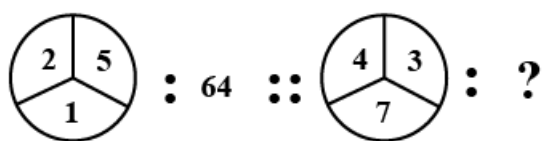
A 81

B 196

C 169

D 324

Answer: B

Instructions

Select the one which is different from the other three responses.

Question 20

A Aluminium

B Tungsten

C Copper

D Diamond

Answer: D

Question 21

A Customer

B Hawker

C Broker

D Salesman

Answer: A

Question 22

A Weaver

B Spinner

C Engineer

D Potter

Answer: C

Question 23

A Champaka

B Hibiscus

C Rose

D Jasmine

Answer: B

Question 24

A Cholera

B Jaundice

C   AIDS

D   Typhoid

   Answer: C

Question 25

A   RQFJ

B   ODHR

C   SRBH

D   RHSN

   Answer: A

Question 26

A   114 57 28

B   120 60 30

C   144 72 36

D   124 62 31

   Answer: A

Question 27

A   8987

B   6354

C   7832

D   2398

   Answer: B

Question 28

A   49 - 7

B   36 - 6

C   64 - 8

D   80 - 9

   Answer: D

Instructions
For the following questions answer them individually

Question 29

Arrange the given words in the order in which they occur in the dictionary andfind thelast but one word:

A   Faubourg

B   Fatiscent

C   Fauxbourdon

D   Favonian

   Answer: C

Question 30

Arrange the following wordsin the orderin which they occur in the dictionary. Which will appear fourth in the dictionary ?

A   Nucleosynthesis

B   Nucleoprotein

C   Nucleonic

D   Nuclearize

   Answer: A

Question 31

Arrange the following words in the orderin which they occurin the Dictionary :
1. Interview
2. Inventory
3. Invention
4. Interval
5. Investment

A   3, 5, 4, 1, 2

B   2, 3, 5, 4, 1

C   2, 5, 3, 1, 4

D   4, 1, 3, 2, 5

   Answer: D

Instructions

Choose the correct alternative from the given responses that will complete the series:

Question 32

xy, wy, xy, ut, xy, ?

A   xy

B   rs

C   yx

D   sr

   Answer: D

Question 33

PQR, HIJ, DEF, ?

A   ABC

B   BCD

C   DEF

D   CDE

   Answer: B

Question 34

NDB, LED, JGG, ?

A   LNP

B   HED

C   HJJ

D   HJI

   Answer: C

Question 35

18, 54, 162, 486, 1458, ?

A   39366

B   4374

C   2187

D   13122

   Answer: B

Question 36

20, 30, 42,56, 72, ?

A   87

B   95

C   85

D   90

   Answer: D

Instructions

For the following questions answer them individually

Question 37

Find the wrong numberin the givenseries:
7, 15, 32, 65, 138

A   65

B   138

C   7

D 15

    Answer: A

Question 38

A party consisted of a man, his wife, his three sons and their wives and three children in each son's family. How many werethere in the party ?

A 17

B 24

C 22

D 13

    Answer: A

Question 39

₹ 6,500 were divided equally among a certain number of persons. Had there been 15 more persons, each would have got ₹ 30 less. Find the original numberof persons.

A 50

B 55

C 40

D 45

    Answer: A

Question 40

From the following alternatives, select the word which cannot be formed usingtheletters of the given word :
UNIVERSITY

A NEVER

B REST

C INVERT

D UNITE

    Answer: A

Question 41

In a certain code MEN is written as MIN and WOMEN is written as WUMIN,then how will CHILD be written in the same code?

A CHOLD

B CHULD

C CHELD

D CHALD

    Answer: A

Question 42

If Y = 2, PEN = 11 - 22 - 13, then 10 - 6 - 18 - 24 - 16 = ?

A QUICK

B QUITE

C JFRXP

D QUACK

Answer: A

Question 43

Find out the number which belongsto the given group of number from thefour alternatives.
5, 25, 90, 35, 60

A 21

B 83

C 15

D 24

Answer: C

Question 44

If $+$ stands for division
$-$ stands for equai to
$\times$ stands for addition
$\div$ stands for greater than
$=$ standsfor less than
$>$ stands for multiplication
$<$ stands for subtraction
then of the given alternatives which one is correct?

A $5 \times 3 < 7 \div 8 + 4 < 2$

B $5 + 3 > 7 - 8 \times 4 + 2$

C $5 > 3 \times 7 = 8 > 4 + 2$

D $5 < 8 > 7 - 8 > 4 + 2$

Answer: A

Instructions

Select the missing number from the given responses.

Question 45
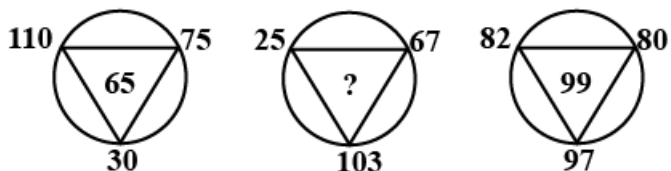
A 120

B 195

C 61

D 89

   Answer: C

Question 46

24   29   21   22   41   82

53   43   ?
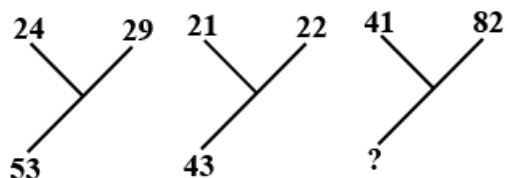
A 33

B 123

C 121

D 63

   Answer: B

Question 47

2   5   7
6   15   21
10   19   ?
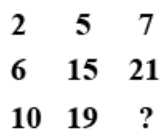
A 28

B 52

C 29

D 25

   Answer: B

Instructions
For the following questions answer them individually

Question 48

Going 60 metresto the South of his house, Kiran turns left and goes another 20 metres then turning to the North, he goes 40 metres and then starts walking to his house. In which direction is his house. In which direction is his house from there ?

A East

B North West

C North

D South East

   Answer: B

Question 49

Ram started walking towards East. After 1 km, he turned South and walked 5 km. Again he turned East and walked 2 km. Finally, he turns to the North and walked 9 km. How far is he from the starting point ?
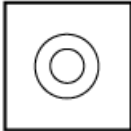
A   5 km

B   7 km

C   3 km

D   4 km

    Answer: A

Question 50

Four positions of a cube are shown below. If symbol Sun is at the top, what symbol will be at the bottom ?

Question Figures:
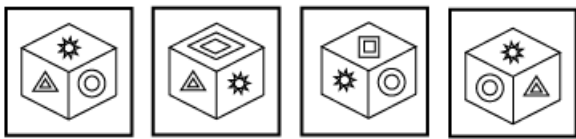
A

B

C

D

    Answer: C

General Awareness

Instructions

For the following questions answer them individually

Question 51

'Liver rot' is caused by

A   Typhlops

B   Trypanosoma

C   Fasciola

D   Taenia

    Answer: C

Question 52

"Proconvertin" is an example of

A   Plasma protein

B   Proteolipid

C   Lipoprotein

D   Glycoprotein

    Answer: A

Question 53

If the filament current of a coolidgetube is increased, X-rays emitted from it will be ofgreater

A   Velocity

B   Penetration power

C   Energy

D   intensity

    Answer: D

Question 54

The ideaofstationary orbit of electrons in an atom was first introduced by

A   Bohr

B   Thomson

C   Sommerfield

D   Rutherford

    Answer: A

Question 55

Which of the following pairs of particles have equal and opposite charge ?

A   Proton-neutron

B   None of these

C   Electron-proton

D   Electron-neutron

    Answer: D

Question 56

In 'Isobaric process', which parameter remains constant ?

A　Temperature

B　Mass

C　Pressure

D　Volume

　Answer: C

Question 57

A prototype of a system is

A　The object code ofa fully developed system

B　A complete system

C　A trial version of a system under development;

D　The source code of a fully developed system

　Answer: C

Question 58

An example of a mathematical function in Structured Query Language (SQL) is

A　M I N

B　C O S

C　A V G

D　M A X

　Answer: B

Question 59

Theintensity of sound is measured in dB-scale and the threshold of hearing is

A　10 dB

B　20 dB

C　0 dB

D　5 dB

　Answer: C

Question 60

PAN is pollutantof air. The full name of PAN is

A　Peroxy Acetyl Nitrate

B　Peroxy Acidal Nitrate

C Peroxy Alkyl Nitrate

D Peroxy Aldehyal Nitrate

   Answer: A

Question 61

Repeated exposure to small concen-trations of a toxic agent results in accu-mulation of toxic substance over a period of time. This is known as

A Bio accumulation

B Chronic accumulation

C Biomagnification

D Chronic toxicity

   Answer: B

Question 62

Which one of these element is NOT considered an essential trace element for the biosphere ?

A Molybdenum

B Sodium

C Zinc

D Selenium

   Answer: B

Question 63

The term epicenture is associated with

A Folding

B Earth s interior

C Faulting

D Earthquakes

   Answer: B

Question 64

How many countries participated in the first Twenty-20 World Cup in South Africa ?

A 16

B 22

C 32

D 28

   Answer: A

Question 65

Which one amongthefollowing is the National Fruit ?

A   Apple

B   Mango

C   Banana

D   Jack Fruit

  Answer: B

Question 66

Which language is spoken by maximum number of people in the world?

A   Spanish

B   Urdu

C   English

D   Chinese

  Answer: D

Question 67

Name the dome shaped monumentused-to keap Buddhist relics.

A   Viharas

B   Temples

C   Stupa

D   Chaityas

  Answer: C

Question 68

'KIMONO' is a dressstyle of

A   China

B   Nepal

C   Korea

D   Japan

  Answer: D

Question 69

Which one of the following famous mon-uments was built to honour the visit of King George V and Queen Mary to India ?

A   Victoria Terminus

B   War Memorial

C   The Gateway of India

D   India Gate

  Answer: C

Question 70

Tulsidas wasthe author of

A   Adi Granth

B   Sursagar

C   Bhagavata Purana

D   Ramcharitmanas

  Answer: D

Question 71

The study of coinsis called

A   Historiography

B   Numismatics

C   Epigraphy

D   Archaeology

  Answer: B

Question 72

Which amongthe following is not a classical Indian dance ?

A   Manipuri

B   Bharatanatyam

C   Rasleela

D   Odissi

  Answer: C

Question 73

The colour of potassium flame through double blue glass is

A   Violet

B   Crimson red

C   Golden yellow

D   Green

  Answer: B

Question 74

Precipitation takes place when product of concentration of ions

A   Is less than the solubility product

B   Is negligible

C   Equals the solubility product

D   Exceeds the solubility product

   Answer: D

Question 75

Dry ice is

A   Liquified Nitrogen

B   Liquified H_2

C   Solid CO_2

D   Ice dust

   Answer: C

Question 76

Poisoning of drinking water is caused due to presence of

A   Iron compound

B   Magnesium compound

C   Zinc compound

D   Arsenic compound

   Answer: D

Question 77

Which institute is known as apex body for development of agriculture ?

A   NABARD

B   IFCI

C   Land Development Bank

D   IDBI

   Answer: A

Question 78

The duration for which a patent rightis valid is known as

A   Patent life

B Patent duration

C Patent time

D Patent right

   Answer: A

Question 79

The concept of supply curve as it is used in economic theory is relevant only for the case of

A Monopolistic competition

B Oligopoly

C Monopoly

D Perfect or pure competition

   Answer: D

Question 80

When the prices of two goods tend to vary inversely, they are said to be

A Pure goods

B Economic goods

C Substitutes

D Complements

   Answer: D

Question 81

Purchase of cycle by a Household is treated as

A Consumption

B Asset creation

C Capital formation

D Savings

   Answer: A

Question 82

Ina Unitary Government, the States derive their powers from

A Central Government

B Judiciary

C Constitution

D Parliament

   Answer: A

Question 83

The theory of naturalrights was first enunciated by

A Hobbes

B Rousseau

C John Locke

D Hugo Grotius

   Answer: D

Question 84

Individualism is also known as

A Anarchism

B Communism

C Socialism

D Laissez-Faire

   Answer: D

Question 85

Parliamentary Government is called

A Congressional executive

B Cabinet executive

C Fixed executive

D Non-responsible executive

   Answer: B

Question 86

Fundamental Duties were laid down by

A The Original Constitution

B 42nd Amendment

C 39th Amendment

D 40th Amendment

   Answer: B

Question 87

Simon Commission was boycotted because

A It did not visit India

B   It was composed of conservatives

C   It was composed of inexperienced men

D   It was an all White Commission

   Answer: D

Question 88

The Nayanars belonged to the

A   Shiva cult

B   Jain cult

C   Bhagavath cult

D   Vaishnava cult

   Answer: A

Question 89

Name the Sufi Saint with whom Akbar, the Mughal Emperor, is associated:

A   Shaikh Nizamuddin Auliya

B   Shaikh Salim Chishti

C   Shaikh Farid

D   Shaikh Muinuddin Chishti

   Answer: B

Question 90

The Vaisheshika School of Physics propounded the atomic theory during the period of

A   Harsha

B   Ashoka

C   Mauryas

D   Guptas

   Answer: D

Question 91

Who set up aseparate department called the Diwan-i-Khairat?

A   Muhammad-bin-Tughlaq

B   Firoz Tughlag

C   Sher Shah

D   Akbar

   Answer: B

Question 92

Birmingham is an Industrial Centre of

A   The Pittsburg-Lake Erie region

B   Volge region

C   The Midlands

D   The Keihin region

   Answer: C

Question 93

Acrescent shaped sand dune is known as

A   Barkhan

B   Sandbar

C   Seif

D   Zeugen

   Answer: A

Question 94

Whichis an ore of dolomite?

A   Aluminium

B   Magnesium

C   Copper

D   Lead

   Answer: B

Question 95

Stalactites and stalagmites are found mainly in

A   underground coal mines

B   sandstone regions

C   granite regions

D   limestone regions

   Answer: D

Question 96

Which one of the following is the oldest and deepest fresh waterlake in the world?

A   Lake Baikal

B   Lake Chilka

C   Lake Superior

D   Lake Titicaca

   Answer: A

Question 97

Which one of the following plants shows vivipary?

A   Rhizophora

B   Mango

C   Pinus

D   Litchi

   Answer: A

Question 98

The kind of inflorescence in sunflower is

A   Capitulum

B   Raceme

C   Spadix

D   Spike

   Answer: A

Question 99

Moulting in insects is mainlys controlled by

A   Parathormone

B   Ecdysone

C   Ecotone

D   Parahormone

   Answer: B

Question 100

Silver fish is included in the phylum

A   Chordata

B   Arthropoda

C   Annelida

D   Echinodermata

   Answer: B

General Engineering (Mechanical)

Instructions

For the following questions answer them individually

Question 101

The strain energy stored in a cantilever beam loaded as shown, will be
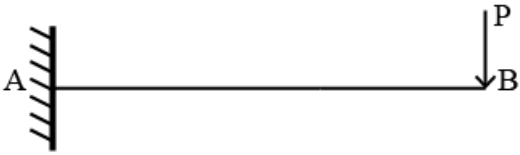
A $\frac{P^2 l^3}{4EI}$

B $\frac{P^2 l^3}{3EI}$

C $\frac{P^2 l^3}{2EI}$

D $\frac{P^2 l^3}{6EI}$

   Answer: D

Question 102

The torque producing a unit twist in a shaft of unit length is

A Nominal torque

B Maximum torque

C Torsional rigidity

D Normal torque

   Answer: C

Question 103

Mass per unit of the belt of an open belt drive is 1.5 $\frac{kg}{m}$. if the linear velocity of the belt is 10m/s and radius of driving pulley 0.5m, centrifugal tension in the belt is

A 150 N

B 600 N

C 400 N

D 300 N

   Answer: A

Question 104

For a Helical spring, spring index is

A The ratio of the mean coil diameter to the pitch of helix

B   The ratio of the mean wire diameter to the pitch of helix

C   The difference between the mean coil diameter and the wire diameter

D   The ratio of mean coil diameter to wire diameter

  Answer: D

Question 105

Rankine formula (for a column) takes into account which of the following ?

A   The initial curvature of the column

B   The eccentricity of loading

C   The effect of direct of slenderness ratio

D   The effect of slenderness ratio

  Answer: C

Question 106

A circular shaft of length L and diameter D is fixed in one end. The other end of the shaft is subjected to a twisting moment T. the angle of rotation of the free end with respect to the fixed end is θ. What will be the angle of rotation of the free end if length is doubled and diameter is reduced to $\frac{D}{2}$?

A 2θ

B 16θ

C 32θ

D $\frac{\theta}{2}$

  Answer: C

Question 107

Two simply supported beam A and B has the same length L and subjected to equal bending moment M. the stress induced in the beam A and B are σ_A and σ_B

respectively. If the cross section of beam A is b x b/2 and that of beam B is $\frac{b}{2} \times b$, then correct relation between σ_A and σ_B is

A $\sigma_A = 2\sigma_B$

B $\sigma_A = \frac{\sigma_B}{2}$

C $\sigma_A = \frac{\sigma_B}{4}$

D $\sigma_A = \sigma_B$

  Answer: A

Question 108

In a tensile test of a specimen, the ratio of maximum load to the original cross-section area of the test piece is called

A   Ultimate stress

B   Safe stress

C   Breaking stress

D   Yield stress

   Answer: A

Question 109

Which one of the following assumptions in the theory of pure torsion is false ?

A   The Twist is uniform along the lengths.

B   The shaft is of uniform circular section throughout.

C   Cross-section plane before torsion remain plane after torsion

D   All radius get twisted due to torsion

   Answer: A

Question 110

If a beam supported on more than two supports, is called a

A   Continuous beam

B   Simply supported beam

C   Encastered beam

D   Built-in beam

   Answer: A

Question 111

If a beam of constant section is subjected throughout its length to a uniform bending moment, it will bend to

A   A circular arc

B   A triangular shape

C   A catenary

D   A parabolic curve

   Answer: A

Question 112

Fusible plug for a steam boiler is an alloy consisting of bismuth, lead out

A   Tin

B   Copper

C   Aluminium

D   Zinc

   Answer: A

Question 113

The maximum efficiency that a heat engine operating between $$327^\circ C$$ and $$27^\circ C$$ can be

A $$\frac{3}{4}$$

B $$\frac{1}{3}$$

C $$\frac{1}{2}$$

D $$\frac{1}{4}$$

   Answer: C

Question 114

Which of the following gases has the highest value of characteristic gas constant (R)?

A Nitrogen

B Carbon Dioxide

C Sulphur Dioxide

D Oxygen

   Answer: A

Question 115

The Molecular kinetic energy of a gas is proportional to

A $$T^{\frac{1}{2}}$$

B $$T^{\frac{3}{2}}$$

C $$T^{2}$$

D $$T$$

   Answer: D

Question 116

Which aspect does not pertain to a free expansion process?

A Work done   ze

B Pressure ema ns constant

C No change in the temperature of the system

D No gain or loss of heat

   Answer: B

Question 117

The isentropic expansion of initially superheated steam through the nozzle may approximately be given by the equation

A $$PV^{1.2}$$ const

B $$PV^{1.135}$$ const

C $$PV^{1.3}$$ const

D PV constant

　Answer: B

Question 118

When neither mass nor energy is allowed to cross the boundary of a system, it is then called

A Open system

B Isolated system

C Universe

D Closed system

　Answer: B

Question 119

Which of the following entities is not a thermodynamic property?

A Temperature

B Specific volume

C Heat

D Pressure

　Answer: C

Question 120

Of the following "path function" quantity is

A Temperature

B Work done

C Enthalpy

D Pressure

　Answer: B

Question 121

Relation ds=$$\frac{\delta}{T}$$ good in case of

A Irreversible process only

B Does not depend on the reversibility or irreversibility

C All real processes

D Reversible processes only

　Answer: D

Question 122

During throtting which thermodynamic property does not change?

A   Pressure

B   Entropy

C   Enthalpy

D   Internal energy

   Answer: C

Question 123

The internal energy of a perfect gas depends on

A   Temperature, enthalpy and specific heats

B   Temperature, entropy and specific heats

C   Temperature only

D   Temperature, Pressure and specific heats

   Answer: C

Question 124

During an adiabatic process, the pressure P of a fixed mass of an idea gas changes by ΔP and its volume V changes by ΔV. The value of $$\frac{V}{V}$$ is given by

A   - $$\gamma \frac{\triangle P}{P}$$

B $$\frac{1}{\gamma}$$ $$\frac{\triangle P}{P}$$

C $$\frac{1}{\gamma^{3}}$$ $$\frac{\t iangle P}{P}$$

D $$\frac{\triangle P}{P}$$

   Answer: A

Question 125

The ratio of air required or omplete combustion of carbon dioxide and that to carbon monoxide is

A   0.5

B   2.0

C   4.0

D   1

   Answer: B

Question 126

In case of Boyle's law, if pressure increases by 1% the percentage decrease in volume is

A $$\frac{1}{101}$$ %

B $$\frac{100}{101}$$ %

C $$\frac{1}{100}$$ %

D   0 %

   Answer: B

Question 127

Critical pressure is the pressure of steam at

A   Throat of steam nozzle

B   Exit of steam nozzle

C   Either at inlet or at outlet of steam nozzle

D   Inlet of steam nozzle

   Answer: B

Question 128

A compression ignition engine is a

A   Steam engine

B   Diesel engine

C   Steam turbine

D   Petrol engine

   Answer: B

Question 129

In diesel engine, the ignition takes place

A   Automatically due to high temperature of compressed fuel

B   Carburettor

C   Automatically due to high temperature of compressed Air

D   by spark plug

   Answer: C

Question 130

The petrol engine works on

A   joule cycle

B   Rankine cycle

C   Carnot cycle

D   Otto cycle

   Answer: D

Question 131

Process in thermodynamic cycles are
I : Isentropic II : Constant Volume
III: Constant pressure IV : Isothermal
Which process of is/are not involved in an air standard dual combustion cycle?

A   II and III only

B   I only

C   IV only

D   I and II only

Answer: C

Question 132

Morse test is conducted on multi cylinder engine to find the engine's

A   Indicated power

B   Stroke length

C   Emission performance

D   Compression ratio

Answer: A

Question 133

A nozzle is said to be choked when

A   Flow through it is maximum and exit pressure is critical pressure

B   it discharge flow into the atmosphere

C   It gets plugged

D   Flow through it becomes zero and exit pressure is zero

Answer: A

Question 134

In a water-tube boiler, the flue gas flows through the following accessories :
1. Super heater 2. ID fan
3. Air heater 4 Economizer
Which of the following gives, the correct sequences of the flue gas through these accessories:

A   1, 2, 3, 4

B   3, 1, 4, 2

C   1, 4, 3, 2

D   1, 3, 2, 4

Answer: C

Question 135

Lean air fuel mixture is required for

A   Idling

B   Crushing

C   Acceleration

D   Starting

Answer: C

Question 136

What material is used for the insulating body of a spark plug?

A   Alumina

B   Dolomite

C   Glass

D   Silica

Answer: A

Question 137

Which element regulates the pressure strokes in the fuel injection pump of a diesel engine?

A   Control rack

B   Pump shaf

C   Lift of plunge

D   Needle valve

Answer: A

Question 138

For complete specification of super eated vapour, one needs

A   Temperature

B   Pressu e as well   temperature

C   Specific volume

D   Pressure

Answer: B

Question 139

Safety valve used with locomotive boilers is operated by

A   Spring

B   Dead weight

C   High steam and low water

D   Lever

   Answer: D

Question 140

Behaviour of which of the following steam quantities is closest to that of a gas?

A   Dry

B   Wet or Dry

C   Super heated

D   Wet

   Answer: C

Question 141

A carnot engine uses nitrogen as the working fluid. The heat supplied is 53 kJ and adiabatic expans on ratio is 16 : 1 The receiver temperature is 295 K. The heat rejected is kJ is

A   20.50

B   230

C   27.75

D   17.49

   Answer: D

Question 142

In a centrifugal pump, the liquids enters th pump

A   At the bottom

B   At the center

C   From the sides

D   At the top

   Answer: E

Question 143

for a fluid at rest

A   The shear stress is zero

B   The shear stress is zero only on the horizontal plane

C   The shear stress is maximum on a plane inclined at 45° to the horizontal

D   The shear stress depends upon the co-efficient of viscosity

   Answer: B

Question 144

A pelton wheel is

A   Radial flow impulse turbine

B   Inward flow impulse turbine

C   Axial flow impulse turbine

D   Outward flow impulse turbine

   Answer: B

Question 145

One torr pressure is equivalent to

A   1 atmosphere

B   1 mm of mercury

C   10 meter of water

D   1 Pascal

   Answer: B

Question 146

Which one of the following is the Bulk Modulus K of fluid?

A $$\frac{dp}{\roh\, d\, \roh}$$

B $$\frac{\roh\, d\, \roh }{dP}$$

C $$\frac{d\, \roh}{\roh\, dP}$$

D $$\frac{\roh\, dP}{d\, roh}$$

   Answer: D

Question 147

Centrifugal pump is started with its delivery valve is

A   Kept fully open

B   Kept 50% open

C   Irrespective of any position

D   Kept fully closed

   Answer: D

Question 148

In flow through a pipe, the transition from Laminar to turbulent does not depends on

A   Density of the fluids

B   Length of the pipe

C   Diameter of the pipe

D   Velocity of the fluid

Answer: B

Question 149

Pick up the wrong statement about Centrifugal Pump

A $$Power\ is\ proportional\ to\ speed^{2}$$

B $$Head\ is\ proportional\ to\ Diameter^{2}$$

C $$Discharge\ is\ proportional\ to\ Diameter$$

D $$Head\ is\ proportional\ to\ Speed^{2}$$

Answer: C

Question 150

A pipe flow is said to be laminar, if

A   If the velocity is above 2000 $$\frac{m}{min}$$

B   If the velocity is less than 2000 $$\frac{m}{min}$$

C   If the flow Reynolds number is less than or equal to 2000 $$\frac{m}{min}$$

D   There is no heat transfer

Answer: C

Question 151

The Kinetic energy associated with a jet through a cross sectional area 'a' having density $$\rho$$ and velocity 'v' is

A $$\frac{1}{2} \rho a v^{2}$$

B $$\frac{1}{2} \rho a v^{3}$$

C $$\frac{1}{2} \rho a^{2} v^{3}$$

D $$\frac{1}{2} \rho v^{2}$$

Answer: A

Question 152

Which shear stress distribution is the correct one corresponding to the flow through a pipe of circular cross-section with parabolic velocity profile?

A

B

C

D
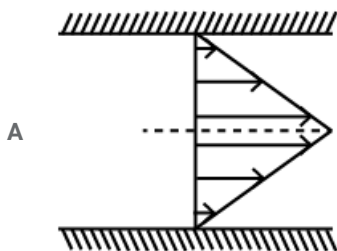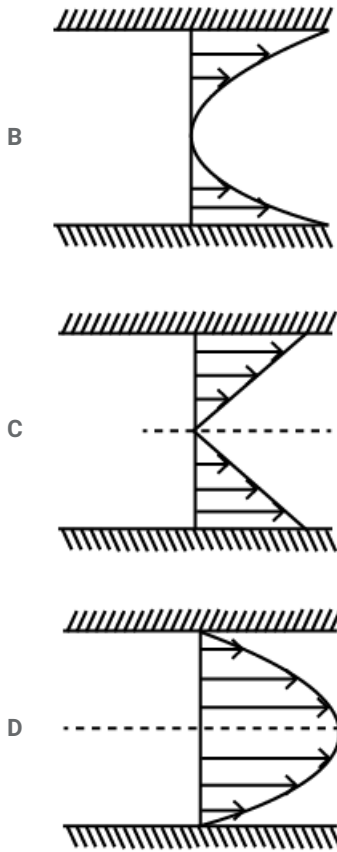
Answer: C

Question 153

Flow through a supersonic nozzle is an example of

A　Open system

B　Isolated system

C　Insulated system

D　Closed system

　Answer: A

Question 154

Loss of energy due to sudden enlargement of pipe cross-section in meters of water is given by

A　$$\frac{1}{ }(V_{ } - V_{2})^{2}$$

B　$$\frac{1}{4}(_{1}^{2} - V_{2}^{2})$$

C　$$\frac{1}{2} V_{2}^{2} \left(1-\frac{A_{2}}{A_{1}}\right)^{2}$$

D　$$\frac{1}{2} V_{2}^{2} \left(\left(\frac{A_{2}}{A_{1}}\right)^{2}-1\right) $$

　Answer: C

Question 155

For maximum power transmission through a pipe line, the friction head loss equals

A　$$\frac{H}{3}$$

B $$\frac{H}{2}$$

C   3$$\frac{H}{5}$$

D $$\frac{H}{4}$$

  Answer: A

Question 156

What should be the ratio of jet speed to blade speed for maximum efficiency of a pelton wheel?

A $$\frac{1}{6}$$

B $$\frac{3}{4}$$

C $$\frac{1}{4}$$

D $$\frac{1}{2}$$

  Answer: D

Question 157

Pressure of 80 kPa is equivalent to a head in meter of carbon tetrachloride of relative density 1.59 of the value

A   6.71 m

B   9.43 m

C   5.13 m

D   8.32 m

  Answer: C

Question 158

Two pipe systems are said to be equivalent w e   in two systems

A   Length of pipe and discharge are same

B   Friction factor and length are same

C   Length and diamete are same

D   Head loss and isc arge are same

  Answer: A

Question 159

Flow between an two stream lines

A   Remains the same

B   Increases along its path

C   Decreases along its path

D   Is always Zero

  Answer: A

Question 160

Pseudo-plastic substances are non-Newtonian fluids for which

A　Dynamic viscosity increases as the rate of shear increases

B　Dynamic viscosity decreases with the time for which shearing forces applied

C　Dynamic viscosity increases with the time for which shearing forces applied

D　Dynamic viscosity decreases as the rate of shear increases

　Answer: D

Question 161

For helical gears, the helix angle generally ranges from

A　30 to 45 degrees

B　45 to 60 degrees

C　30 to 75 degrees

D　0 to 30 degrees

　Answer: A

Question 162

Which of the following is not a foundry tool?

A　Riddle

B　Arbor

C　Slick

D　Trowel

　Answer: B

Question 163

Filler metal is used in

A　Spot welding

B　Projecti　n welding

C　Gas welding

D　Seam welding

　Answer: C

Question 164

Hot working of metal is carried out

A　Above the recrystallisation temperature

B   At the recrystallisation temperature

C   Working Temperature depends upon physical condition of work piece

D   Below the recrystallisation temperature

   Answer: A

Question 165

The vertical passage for bringing molten metal to mould cavity is called

A   Riser

B   Sprue

C   Runner

D   Gate

   Answer: B

Question 166

In arc welding, the arc length should be approximately equal to

A   Diameter of electrode rod

B   One and a half time the diameter of electrode rod

C   Twice the diameter of the electrode rod

D   Half the diameter of the electrode rod

   Answer: A

Question 167

The forging of the steel specimen is normally do   at a temperature of

A $$800^\circ C$$

B $$1100^\circ C$$

C $$1500^\circ C$$

D $$400^\circ C$$

   Answer: A

Question 168

Which part of the cutting tool is prone to crater wear?

A   Face

B   Shank

C   Base

D   Flank

   Answer: A

Question 169

The size of a Shaper is specified by

A Gross weight off machine

B Surface area that can be machined in one hour

C Quick return ratio

D Maximum travel of cutting tool

   Answer: D

Question 170

The process of pouring molten metal in the cavity of a metallic mould by gravity is known as

A Permanent mould casting

B Pressed Casting

C Shell Casting

D Di Casti

   Answer: A

Question 171

The Soldering Iron is heated in a gas flame until

A The bit is the red hot

B The coating of boraxon the bit turns black

C The gas flame appears orange in the co or

D The gas flame appears Green in the colo

   Answer: A

Question 172

Cupola is best suited for mel ing

A Non-ferrous me als

B Alumi i m a oys

C Alloys of copper

D Ferrous metals

   Answer: D

Question 173

Railway rails are generally made of

A High Carbon steel

B   Medium carbon steel

C   Alloy steel containing 0.8 to 0.9 % carbon

D   Mild steel

    Answer: D

Question 174

In case of slotting machine, cutting action takes place in

A   Forward stroke

B   Downward stroke

C   Backward stroke

D   Upward stroke

    Answer: A

Question 175

In a drill operation

A   Torque is equal to the axial force

B   Torque is more than the axial force

C   Torque is less than the axial force

D   Torque is half the axial force

    Answer: D

Question 176

Lathe bed is made of

A   Cast Iron

B   Alloy steel

C   High Carbon steel

D   Mild steel

    Answer: A

Question 177

While using High speed steel tools on lathe, the speed of chuck will be lowest while machinin

A   Copper

B   Aluminium

C   Brass

D   Cast Iron

    Answer: D

Question 178

When turning Mild steel, if the area of cross-section of the cut remain constant, the cutting force will be minimum if depth of cut is

A   Approximately equal to the feed per revolution

B   One-and-half time the feed per revolution

C   Two time the feed per revolution

D   Half the feed per revolution

   Answer: D

Question 179

In which type of welding molten metal is poured for joining the metals?

A   Arc Welding

B   Gas welding

C   MIG welding

D   Thermit welding

   Answer: D

Question 180

In a single V-butt welds the angle between edges is kept about

A 20° to 40°

B 40° to 60°

C 70° to 90°

D 10° to 20°

   Answer: A

Question 181

Permeability of a foundry sand is

A   Porosity to permit the escape of gases/air

B   Fineness of sand

C   Distribution of binder in sand

D   Capacity to hold moisture

   Answer: A

Question 182

The crank radius of a slider crank mechanism is 10mc. If the crank radius is increased to 12cm. the stroke length will increase by

A   10%

B   20%

C   12%

D   5%

   Answer: B

Question 183

Assertion (A) :A clutch is the best means to connect a driving shaft with a driven shaft for regular power transmission
Reason (R):
A clutch can be frequently engaged and disengaged at operators will

A   Both A and R are true, but R is not the correct explanation of A

B   A is true, but R is false

C   R is true but A is false

D   Both A and R are true, but A is not the correct explanation of R

   Answer: D

Question 184

A spur gear with pitch circle diameter D has number of teeth T. The module m is defin d as

A $$m \frac{D}{T}$$

B $$m DT$$

C $$m \frac{T}{D}$$

D $$m TD$$

   Answer: A

Question 185

A ball and socket joint forms a

A   Rolling pair

B   Sliding pair

C   Spherical pair

D   Turning pai

   Answer: C

Question 186

BCD is a four-bar mechanism in which AB = 30 cm and CD = 45 cm. At an instant, both AB and CD are perpendicular to fixed link AD. If velocity of B at this condition is V, then velocity of C is
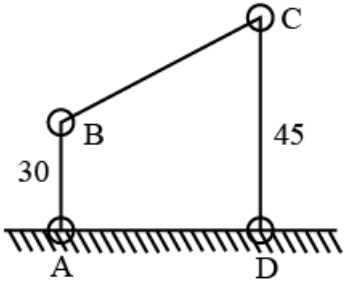
A $$\frac{4}{3}$$ V

B $$\frac{9}{4}$$ V

C $$\frac{3}{2}$$ V

D   V

   Answer: C

Question 187

The inner and outer radius of friction surface of a plate clutch are 50 mm and 100 mm r spectively. What is the ratio of maximum intensity of pressure on clutch plate if magnitude of axial force is 4 KN? Assume uniform wear theory

A   4

B   2

C   6

D   8

   Answer: B

Question 188

The thickness of a boiler plate is 16mm, the diam ter of rivet used in the boiler joint is

A   24 mm

B   28 mm

C   10 mm

D   20 mm

   Answer: A

Question 189

Lewis equation in spur gear design is applied to

A   Gear

B   Stronger of the pinion or gear

C   Weaker of the pinion or gear

D Pinion

   Answer: C

Question 190

Degree of freedom of a slider crank mechanism is

A 1

B 2

C 3

D 0

   Answer: A

Question 191

Match the List-I with list-II and select the correct match using the codes below

List-I	List-II
A. Governor	1. Dunkerley method
B. Flywheel	2. turning moment
C. Critical speed	3. D's Alembert's principle
D. Inertia force	4. Speed control

A A-2, B-2, C-4, D-1

B A-1, B-2, C-3, D-4

C A-3, B-2, C-1, D-4

D A-4, B-2, C-1, D-3

   Answer: C

Question 192

The reaction between number of lower pair(P) and number of links (L) in a four link kinematic chain is given by

A L p + 4

B L 2p + 4

C L 2(p - 1)

D L 2p - 4

   Answer: D

Question 193

The stiffness of the spring in a hartnell governor is equal to $$S_{1}$$ = Spring force exerted on the slleve at maximum radius of rotation $$S_{2}$$= Spring force exerted on the slleve at minimum radius of rotation

A $$\frac{2(S_{1} - S_{2})}{h}$$

B $$\frac{S_{1} - S_{2}}{2h}$$

C $$\frac{S_{1} + S_{2}}{h}$$

D $$\frac{S_{1} - S_{2}}{h}$$

  Answer: D

Question 194

The differential gear in the automobiles is used to

A   Help in turning

B   Assist in changing speed

C   Provide balancing

D   Reduce speed

  Answer: A

Question 195

Which of the following gear system have minimum axial thrust?

A   Bavel gears

B   Helical gears

C   Double helical gears

D   Spur gears

  Answer: C

Question 196

A sliding bearing which can support steady load without any relative motion between the journal and the bearing is called

A   Boundary lubricated bearing

B   Zero film bearing

C   Hydrodynamic lubricated bearing

D   Hydrostatic lubricated bearing
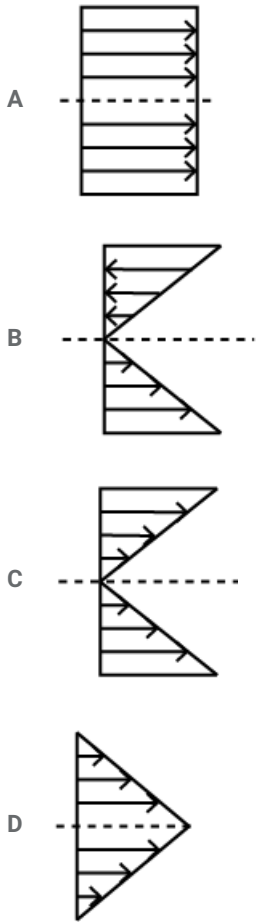
  Answer: C

Question 197

Form the Lewis equation Fb = f.p.y.b, the strength factor of the gear is given by the product

A   f .y

B   p .y

C   p .b

D   f .b

  Answer: A

Question 198

A simply supported beam is subjected to a point load P at the middle of the beam. The correct normal stress distribution across its cross-section is given by which figure?

A

B

C

D

Answer: B

Question 199

The shear strength, tensile strength and, compressive strength of rivet joint are 100N, 120N and 150N respectively. If strength of the unriveted plate is 200N, the efficiency of rivet joint is

A   60%

B   75%

C   80%

D   50%

Answer: D

Question 200

a simply supported beam carries a uniformly distributed load of w kgf per unit length over the whole span (l) the shear force at the center is

A $$\frac{wl^{2}}{8}$$

B $$\frac{wl}{8}$$

C   0

D $$\frac{wl}{2}$$

Answer: C

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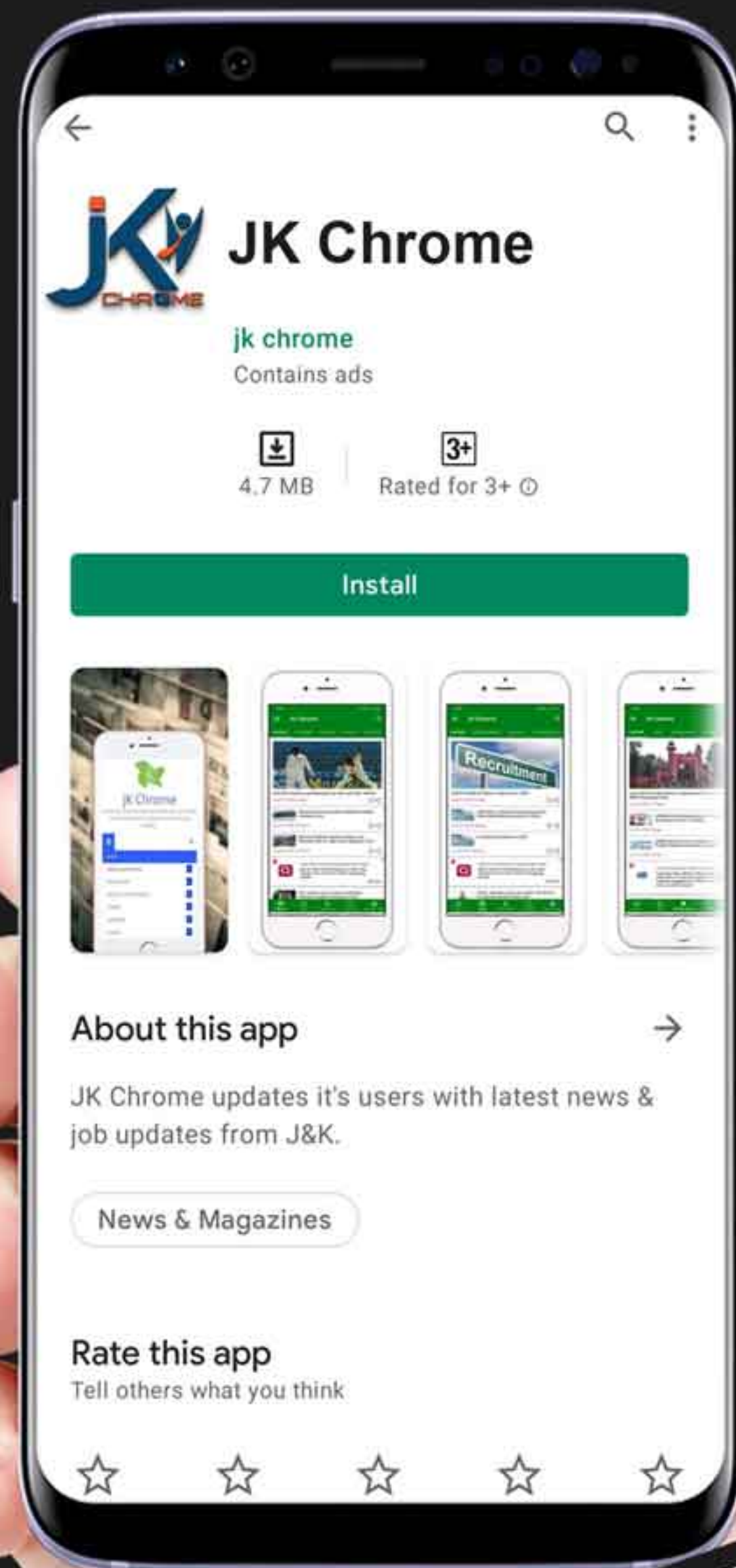Private Jobs
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