K. J. Somaiya Institute of Engineering and Information Technology
Sion, Mumbai - 400022
NAAC Accredited Institute with 'A' Grade
NBA Accredited 3 Programs
(Computer Engineering, Electronics & Telecommunication Engineering and Electronics Engineering)
Permanently Affiliated to University of Mumbai

EXAMINATION TIME TABLE (JANUARY 2021)

F.E.(Sem II) (ALL BRANCHES) (REV.-2012) (CBSGS)

Days and Dates	Time	Paper Code	Paper
Friday, January 08, 2021	03.30 p.m to 05.30 p.m.	FEC201	Applied Mathematics – II
Monday, January 11, 2021	03.30 p.m to 05.00 p.m.	FEC202	Applied Physics – II
Wednesday, January 13, 2021	03.30 p.m to 05.00 p.m.	FEC203	Applied Chemistry- II
Friday, January 15, 2021	03.30 p.m to 05.30 p.m.	FEC204	Engineering Drawing
Monday, January 18, 2021	03.30 p.m to 05.30 p.m.	FEC205	Structured Programming Approach
Wednesday, January 20, 2021	03.30 p.m to 04.30 p.m.	FEC206	Communication Skills

Important Note: ● Change if any, in the time table shall be communicated on the college web site.

Mumbai
20th December, 2020

Principal

University of Mumbai
Examination 2020 under cluster _3_FCRIT

Program: _First Year (All Branches) Engineering
Curriculum Scheme: Rev 2012
Examination: First Year Semester II
Course Code: FEC201 and Course Name: Applied Mathematics-II

Time: 1 hour Max. Marks: 50

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For the students:- All the Questions are compulsory and carry equal marks .

Q1.	Solution of $(D^3 - D)y = 0$ is …
Option A:	$c_1 e^x + c_2 e^{-x}$
Option B:	$c_1 \sin sin\,(x) + c_2 \cos cos\,(x)$
Option C:	$c_1 \sin sin\,(x) + c_2 \cos cos\,(x) + c_3$
Option D:	$c_1 e^x + c_2 e^{-x} + c_3$
Q2.	Condition for exactness for differential equation $Mdx + Ndy = 0$ is…
Option A:	$Mdx = - Ndy$
Option B:	$\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y}$
Option C:	$\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$
Option D:	$M=N$
Q3.	The solution of the differential equation $\frac{dy}{dx} + \frac{2y}{x} = 0$ is…
Option A:	$y = \frac{c}{x^2}$
Option B:	$y = \frac{1}{x}$
Option C:	$x = \frac{1}{y}$
Option D:	$x = \frac{c}{y^2}$
Q4.	$\frac{1}{D^2-3}\cos cos\,(x) =$ _____
Option A:	$-\frac{1}{4} sin(x)$
Option B:	$-\frac{1}{2} sin(x)$
Option C:	$-\frac{1}{4} cos(x)$
Option D:	$-\frac{1}{2} cos(x)$
Q5.	A Particular Interal (P.I.) of a third order linear differential equation is having ____ arbitrary constants

Option A:	2
Option B:	3
Option C:	0
Option D:	1
Q6.	Solution of $e^{y}\frac{dy}{dx} + e^{y} = e^{x}$ is_____
Option A:	$e^{x+y} = 2e^{x} + c$
Option B:	$e^{x+y} = \frac{e^{2x}}{2} + c$
Option C:	$ye^{x} = \frac{e^{2x}}{2} + c$
Option D:	$e^{x-y} = 2e^{x} + c$
Q7.	$\frac{1}{D^{2}-2D+1}e^{x}\sin sin\,(x) =$ _____
Option A:	$e^{x}\sin sin\,(x)$
Option B:	$-\,e^{x}\sin sin\,(x)$
Option C:	$e^{x}\cos cos\,(x)$
Option D:	$-\,e^{x}\cos cos\,(x)$
Q8.	The value of $\iiint e^{x+y+z}\,dz\,dydx$ bounded by the plane $x = 0,\ x = 1,\ y = 0,\ y = 1,\ z = 0$ and $z = 1$ is_____
Option A:	$(e-1)^{3}$
Option B:	$(e-1)^{2}$
Option C:	$(e-1)^{4}$
Option D:	$(e-1)$
Q9.	The Particular Integral (P.I.) of $\frac{d^{2}y}{dx^{2}} + 16y = \sin sin\,(4x)$ is _____
Option A:	$-\frac{xsin(4x)}{8}$
Option B:	$\frac{xsin(4x)}{8}$
Option C:	$\frac{xcos(4x)}{8}$
Option D:	$-\frac{xcos(4x)}{8}$
Q10.	Which is the I.F. for differential equation $\frac{dy}{dx} + Py = Q$
Option A:	$e^{\int P\,dx}$

Option B:	$e^{\int Q\,dx}$
Option C:	$e^{-\int P\,dx}$
Option D:	$e^{\int Q\,dy}$
Q11.	Which of the following is the general solution to $\frac{d^2y}{dx^2} + 10\frac{dy}{dx} + 25y = 0$? c_1 and c_2 are constants
Option A:	$y = c_1e^{-5x} + c_2e^{-5x}$
Option B:	$y = c_1xe^{-5x} + c_2e^{-5x}$
Option C:	$y = c_1e^{5x} + c_2e^{5x}$
Option D:	$y = c_1xe^{5x} + c_2e^{5x}$
Q12.	Choose the corret option, if the roots of auxilliary equation are $1, -1, -1, 1\pm 2i$
Option A:	$c_1e^x + c_2e^{-x} + c_3e^{-x} + e^x[c_4 \cos cos\,(2x) + c_5 \sin sin\,(2x)]$
Option B:	$c_1e^x + c_2e^{-x} + c_3xe^{-x} + e^x[c_4 \cos cos\,(2x) + c_5 \sin sin\,(2x)]$
Option C:	$c_1xe^x + c_2e^{-x} + c_3e^{-x} + e^x[c_4 \cos cos\,(2x) + c_5 \sin sin\,(2x)]$
Option D:	$c_1e^x + c_2e^{-x} + c_3e^{-x} + xe^x[c_4 \cos cos\,(2x) + c_5 \sin sin\,(2x)]$
Q13.	The number of arbitrary constants in the general solution of differential equation of second order is _____
Option A:	1
Option B:	0
Option C:	2
Option D:	4
Q14.	The value of $\int_0^{4\sqrt{y}}\int_0 xy\,dx\,dy$
Option A:	$\frac{32}{3}$
Option B:	$\frac{64}{5}$
Option C:	$\frac{32}{5}$
Option D:	$\frac{5}{32}$

Q15.	The relation between beta and gamma function is _____
Option A:	$\beta(m,n)=\frac{\Gamma(m)\Gamma(n)}{\Gamma(m-n)}$
Option B:	$\beta(m,n)=\frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$
Option C:	$\beta(m,n)=\frac{\Gamma(n)}{\Gamma(m+n)}$
Option D:	$\beta(m,n)=\frac{\Gamma(m+n)\Gamma(n)}{\Gamma(m-n)}$
Q16.	$\beta\left(\frac{1}{2},\frac{1}{2}\right)=$ _____
Option A:	0
Option B:	1
Option C:	$\sqrt{\pi}$
Option D:	π
Q17.	The value of $\int_0^{\frac{\pi}{2}} sin^3\theta\, cos^{\frac{5}{2}}\theta\, d\theta$ is_____
Option A:	$\frac{77}{8}$
Option B:	$\frac{8}{77}$
Option C:	$\frac{9}{11}$
Option D:	2π
Q18.	By Runge Kutta Method of order four approximate value of $y(0.1)$ for an initial value problem $\frac{dy}{dx}=x^2+y^2,\ y(0)=1$ with $h=0.1$ is
Option A:	1.1114
Option B:	1.2221
Option C:	0.1114
Option D:	0.1246
Q19.	By Taylor series method, approximate value of $y(0.2)$ for differential equation $y'=x-y^2,\ y(0)=1$ with h=0.2 is
Option A:	0.84933
Option B:	1.8946
Option C:	0.7802
Option D:	1.7816
Q20.	The approximate value of $y(0.1)$ by Euler's Method for initial value problem $\frac{dy}{dx}=\frac{y-x}{y+x};\ y(0)=1$ with $h=0.02$ is
Option A:	1.0591

Option B:	1.0392
Option C:	1.09271
Option D:	1.0791
Q21.	The value of $\int_{0.2}^{2.2} e^x dx$ by Simpson's 1/3rd Method with n=4 is
Option A:	7.8062
Option B:	7.8036
Option C:	7.8423
Option D:	7.9655
Q22.	The value of $\int_{0}^{\frac{\pi}{2}} \sqrt{cot\theta}\, d\theta$ is
Option A:	$\frac{\pi}{2}$
Option B:	$\frac{\pi}{\sqrt{2}}$
Option C:	$\frac{\pi}{4}$
Option D:	$\frac{\sqrt{\pi}}{2}$
Q23.	The area bounded by circle $x^2 + y^2 = a^2$ is_____
Option A:	πa^2 unit^2
Option B:	$\pi^2 a^2$ unit^2
Option C:	πa unit^3
Option D:	$\pi^2 a$ unit^3
Q24.	The value of $\int_{0}^{1}\int_{-1}^{2}\int_{1}^{3} x + y^3 + z^3\, dx\, dy\, dz$ is
Option A:	21
Option B:	11
Option C:	54
Option D:	9
Q25.	The equivalent equation for $x^2 + y^2 + (z-1)^2 = 1$ in spherical coordinate system is
Option A:	$r = 2cos\theta$
Option B:	$r = 2sin\theta$
Option C:	$r = 4cos\theta$
Option D:	$r = 4sin\theta$

University of Mumbai

Examination 2020 under cluster _3_FCRIT

Program: _First Year (All Branches) Engineering

Curriculum Scheme: Rev 2012

Examination: First Year Semester II

Course Code: FEC201 and Course Name: Applied Mathematics-II

Time: 1 hour Max. Marks: 50

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	C
Q3.	A
Q4	C
Q5	C
Q6	B
Q7	B
Q8.	A
Q9.	D
Q10.	A
Q11.	B
Q12.	B
Q13.	C
Q14.	A
Q15.	B
Q16.	D
Q17.	B
Q18.	A
Q19.	A
Q20.	C
Q21.	A
Q22.	B
Q23.	A
Q24.	A
Q25.	A

University of Mumbai
Examination 2020

Program: First Year Engineering
Curriculum Scheme: Rev 2012
Examination: First Year Semester II
Course Code: FEC202 and Course Name: Applied Physics II
Time: 2 hour Max. Marks: 60

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
Q1.	When Newton's rings interference pattern is viewed from above by means of reflected light, the central spot is _____
Option A:	always dark
Option B:	always bright
Option C:	sometimes dark and sometimes bright
Option D:	always white in colour
Q2.	White light falls normally on a soap film of refractive index 1.33 and thickness 5000 A^0. What wavelength within the visible spectrum (λ = 4000 A^0 to 7000 A^0) will be strongly reflected?
Option A:	4320 A^0
Option B:	5320 A^0
Option C:	6328 A^0
Option D:	5890 A^0
Q3.	The condition for obtaining Fraunhofer diffraction at a single slit is that the light waveform incident on the slit should be .
Option A:	spherical
Option B:	cylindrical
Option C:	elliptical
Option D:	plane
Q4.	The condition for minima in Fraunhofer diffraction for single slit is $a\ sin\theta = m\lambda$. Here θ is _____
Option A:	an angle of incidence of incident rays at the slit
Option B:	an angle at which diffracted rays strikes the screen
Option C:	an angle between slit and screen
Option D:	an angle of diffraction at which rays are diffracted at slit
Q5.	Calculate grating element of the grating having 5000 lines/cm.
Option A:	$5\times10^{-4}\ cm$
Option B:	$5\times10^{4}\ cm$
Option C:	$2\times10^{-4}\ cm$
Option D:	$2\times10^{4}\ cm$
Q6.	Resolving power of grating can be increased by .
Option A:	by increasing number of lines on the grating

Option B:	by decreasing number of lines on the grating
Option C:	by increasing height of the grating
Option D:	by decreasing height of the grating
Q7.	In optical fibre light propagates from one end to the other due to phenomenon called as _____.
Option A:	interference
Option B:	diffraction
Option C:	polarization
Option D:	total internal reflection
Q8.	If refractive index of core is n_1 and cladding is n_1, then the numerical aperture of an optical fibre is given by .
Option A:	$\sqrt{n_1^2 - n_2^2}$
Option B:	$\sqrt{n_1^2 + n_2^2}$
Option C:	$\sqrt{n_1^2 \times n_2^2}$
Option D:	$n_1^2 - n_2^2$
Q9.	The wavelength of laser beam obtained in He-Ne laser is .
Option A:	10600 A^0
Option B:	5893 A^0
Option C:	6328 A^0
Option D:	5320 A^0
Q10.	The wavelength of the wave associated with an electron accelerated by a potential difference of V volt is .
Option A:	$\frac{h}{2meV}$
Option B:	$\frac{h}{\sqrt{2meV}}$
Option C:	$\frac{h^2}{2meV}$
Option D:	$\frac{h}{\sqrt{2\pi meV}}$
Q11.	Calculate the wavelength of the wave associated with a neutron moving with energy 0.025eV. Mass of neutron is 1.676 x 10^{-27} kg.
Option A:	0.81 A^0
Option B:	2.57 A^0
Option C:	3.57 A^0
Option D:	1.81 A^0
Q12.	An electron is bound in a one dimensional potential well of width 2 A^0 and of infinite height. Its energy values in ground state will be _____.
Option A:	$15 \times 10^{-18} J$
Option B:	$1.5 \times 10^{-18} J$

Option C:	$1.5 \times 10^{-19} J$
Option D:	$1.5 \times 10^{-20} J$
Q13.	The period of circular motion of an electron in transverse magnetic field is given by _____.
Option A:	$T = \frac{2\pi m}{Be}$
Option B:	$T = \frac{2\pi}{Be}$
Option C:	$T = \frac{\pi m}{Be}$
Option D:	$T = \frac{m}{Be}$
Q14.	The temperature at which conductivity of a material becomes infinite is called _____.
Option A:	Critical temperature
Option B:	Absolute temperature
Option C:	Mean temperature
Option D:	Crystallization temperature
Q15.	SEM stands for _____.
Option A:	Scientific Electron Microscope
Option B:	Superconducting Energy Microscope
Option C:	Super Energetic Microscope
Option D:	Scanning Electron Microscope

Q2	**Solve any Three out of Five. 5 marks each**
A	Show that in Newton's ring experiment, diameter of n^{th} dark ring is directly proportional to square root of n.
B	Red light of wavelength 7500 A^0 is normally incident on a plane diffraction grating having 6000 lines per cm. How many diffraction orders are observed? If source is replaced by yellow one of wavelength 5890 A^0 and then by a violet one of wavelength 4300 A^0. How many orders would be observed in each case?
C	Write a short note on optical fibre communication system.
D	Describe the working principle of MAGLEV with a neat diagram.
E	Draw a labeled diagram and explain construction and working of CRT.

Q3	**Solve any Three out of Five. 5 marks each**
A	The diameter of 10^{th} dark ring is 5 mm, when light of wavelength 5500 A^0 is used in Newton's rings experiment. If the space between lens and glass plate is filled with a liquid of refractive index 1.25, what will be the diameter of 10^{th} dark ring?
B	Obtain relation for resolving power of grating.
C	With a neat diagram, explain construction and working of He Ne laser.

D	State Heisenberg's uncertainty principle. Show that electron can not preexist in free state in a nucleus.
E	With a neat diagram, explain construction and working of Scanning Electron Microscope.

University of Mumbai
Examination 2020

Program: First Year Engineering
Curriculum Scheme: Rev 2012
Examination: First Year Semester II
Course Code: FEC202 and Course Name: Applied Physics II
Time: 2 hour Max. Marks: 60

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1	A
Q2	B
Q3	D
Q4	D
Q5	C
Q6	A
Q7	D
Q8	A
Q9	C
Q10	B
Q11	D
Q12	B
Q13	A
Q14	A
Q15	D

University of Mumbai

Examination 2020 under cluster 3 (Lead College: FCRIT)

Program: First Year Engineering (All Branches)

Curriculum Scheme: Rev.2012

Examination: FE Semester II

Course Code: FEC203 and Course Name: Applied Chemistry-II

Time: 1 hr 30 min Max. Marks: 60

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Q1 **(30 Marks)**	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	During proximate analysis of coal, which of the following constituent is not calculated?
Option A:	% of moisture
Option B:	% of ash
Option C:	% of carbon and hydrogen
Option D:	% of Volatile matter
2.	2.5 g of coal sample was weighed in Silica crucible. After heating for 1 hour at 110^0C, the residue weighed 2.365 g. Calculate the % moisture present in the coal sample.
Option A:	5.4%
Option B:	5.0%
Option C:	8.1%
Option D:	4.2%
3.	3g of coal was heated in Kjeidhal flask and NH_3 gas evolved was absorbed in 40ml of 0.5 N H_2SO_4,After absorption the excess acid required 18.5 ml of 0.5 N KOH for exact neutralization .Calculate percentage of N in coal.
Option A:	51.0%
Option B:	7.03%
Option C:	5.01%
Option D:	3.04%
4.	Process of converting heavy oil with high molecular weight hydrocarbon to the oil with lower molecular weight hydrocarbon is known as …..
Option A:	Refining
Option B:	Cracking
Option C:	Filtering
Option D:	Stabilizing
5.	Catalyst used in catalytic converter is
Option A:	Pt
Option B:	Ag
Option C:	Au
Option D:	Fe
6.	Which of the following is not type of metal coating?

Option A:	Galvanizing
Option B:	Metal cladding
Option C:	Metal Spraying
Option D:	Paints
7.	Cementation can be done by
Option A:	Metal spraying
Option B:	Sherardizing
Option C:	Electroplating
Option D:	Tinning
8.	Season cracking is the term applied to
Option A:	Waterline corrosion of steel tank
Option B:	Corrosion of stainless steel
Option C:	Stress corrosion of copper
Option D:	Stress corrosion of mild steel
9.	When two different metal connected to each other directly they under go
Option A:	Galvanic corrosion
Option B:	Stress corrosion
Option C:	Pitting corrosion
Option D:	Intergranular corrosion
10.	Molybdenum metal forms its oxide, which is
Option A:	Porous oxide
Option B:	Stable oxide
Option C:	Unstable oxide
Option D:	Volatile oxide
11.	Which of the following is not a process involved in powder metallurgy
Option A:	Compacting
Option B:	Sintering
Option C:	Metal powder formation
Option D:	Baking
12.	Composition of Duralumin is
Option A:	Al=95%,Cu=4%,Mn=0.5%,Mg=0.5%
Option B:	Al=0.5%,Cu=4%,Mn=0.5%,Mg=95%
Option C:	Al=95%,Cu=0.4%,Mn=0.5%,Mg=0.5%
Option D:	Al=95%,Cu=4%,Mn=5%,Mg=5%
13.	Which of the following is not method of powder formation in powder metallurgy process?
Option A:	Mechanical pulverization
Option B:	Decomposition
Option C:	Electroplating
Option D:	Atomization
14.	Which of the following is not a type of fiber reinforced polymer composites?

Option A:	Glass fiber reinforced polymer composites
Option B:	Large particle composites
Option C:	Carbon fiber reinforced polymer composites
Option D:	Aramid fiber reinforced polymer composites
15.	In greener synthesis of indigo, traditionally used Aniline is replaced by the following substrate.
Option A:	Fructose
Option B:	L-tryptophan
Option C:	Toluene
Option D:	Benzene

Q2 (15 Marks)	**Solve any Three out of Five** **5 marks each**
A	Calculate the volume of air required for complete combustion of $1m^3$ of gaseous fuel, which possesses by volume CH_4=35%, C_2H_4=4%, CO= 10%, H_2=45%, N_2=2% and water vapor=4%.
B	What is the principle of Cathodic Protection? Explain sacrificial anodic protection method.
C	What is Powder Metallurgy? Explain cold powder extrusion molding.
D	Write a note on structural composites.
E	Give conventional and greener chemistry route of production of indigo and explain the green chemistry principle addressed in this case.

Q3 (15 Marks)	**Solve any Three out of Five** **5 marks each**
A	With the help of labeled diagram explain refining of petroleum.
B	Define corrosion and explain corrosion due to differential aeration.
C	Define an alloy. Give the purpose of making alloys (Any four).
D	What is matrix phase of composite materials? Give functions of matrix phase.
E	List the twelve principles of Green chemistry and explain the green principle “Maximize atom economy”.

University of Mumbai

Examination 2020 under cluster 3 (Lead College: FCRIT)

Program: First Year Engineering (All Branches)

Curriculum Scheme: Rev 2012

Examination: FE Semester II

Course Code: FEC 203 and Course Name: Applied Chemistry -II

Time: 1 hr 30 min Max. Marks: 60

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	A
Q3.	C
Q4	B
Q5	A
Q6	D
Q7	B
Q8.	C
Q9.	A
Q10.	D
Q11.	D
Q12.	A
Q13.	C
Q14.	B
Q15.	B

University of Mumbai

Examination 2020 under cluster 3 (Lead College:FCRIT)

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: **FE (All Branches)**

Curriculum Scheme: Rev 2012

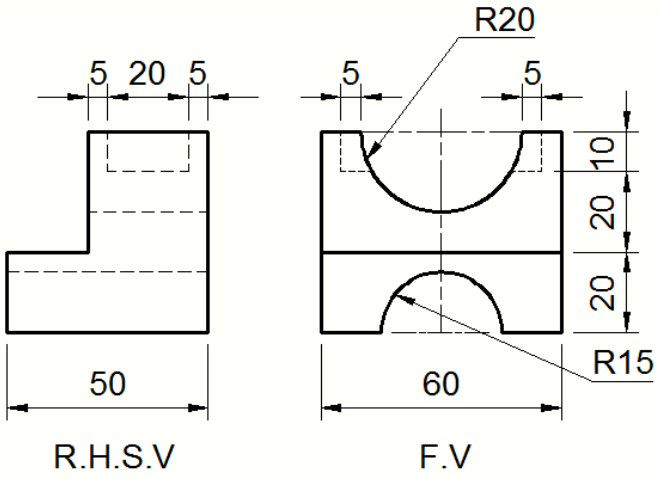
Examination: FE Semester II

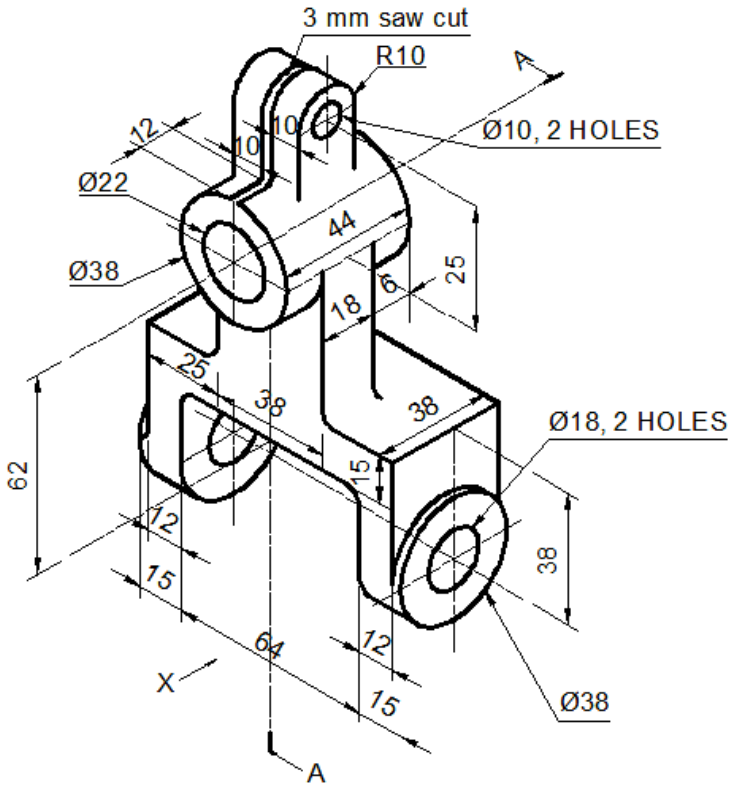
Course Code: FEC204

Course Name: Engineering Drawing

Time: 2 hour Max. Marks: 60

a. Use First Angle method of projection only.
b. Use your Judgment for any unspecified dimension.
c. Retain all construction lines.
d. All dimensions are in mm.
e. Show necessary dimensions.

Q1		Solve any one out of two questions	
	a.	The *FV* of *85mm* long straight-line *AB* measures *60mm* while its *TV* measures *70 mm*. Draw the projections of *AB* if its end *A* is *10 mm* above the *HP* & *20 mm* in front of the *VP* while its end *B* is in the first quadrant. Determine the inclination of the line *AB* with the reference plane.	10
	b.	A circular disc is rolling without slipping on a straight smooth surface. Draw a curve traced by a point on the circumference of the disc and touching the surface. Also draw tangent at any point of your choice.	10
Q2		Solve any two out of three questions	
	a.	A square pyramid, 40 mm base sides and axis 60 mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of 45^0 with the VP. Draw its projections. Take apex nearer to VP	15
	b.	Draw isometric view of the following figure. 	15
	c.	A hexagonal pyramid, base 30 mm side and axis 65 mm long is resting on its base on the HP, with two edges of the base parallel to the VP. It is cut by a section plane perpendicular to VP and inclined at 45° to the HP, intersecting the axis at a point 25 mm above the base. Draw the front view, sectional top view, sectional side view and true shape of the section	15

Q3		Draw (i) Front View from direction x (ii) Sectional SV along section A-A (iii) Top View  	20

University of Mumbai

Examination 2020 under cluster 3 (Lead College:FCRIT)

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: **FE (All Branches)**

Curriculum Scheme: Rev 2012

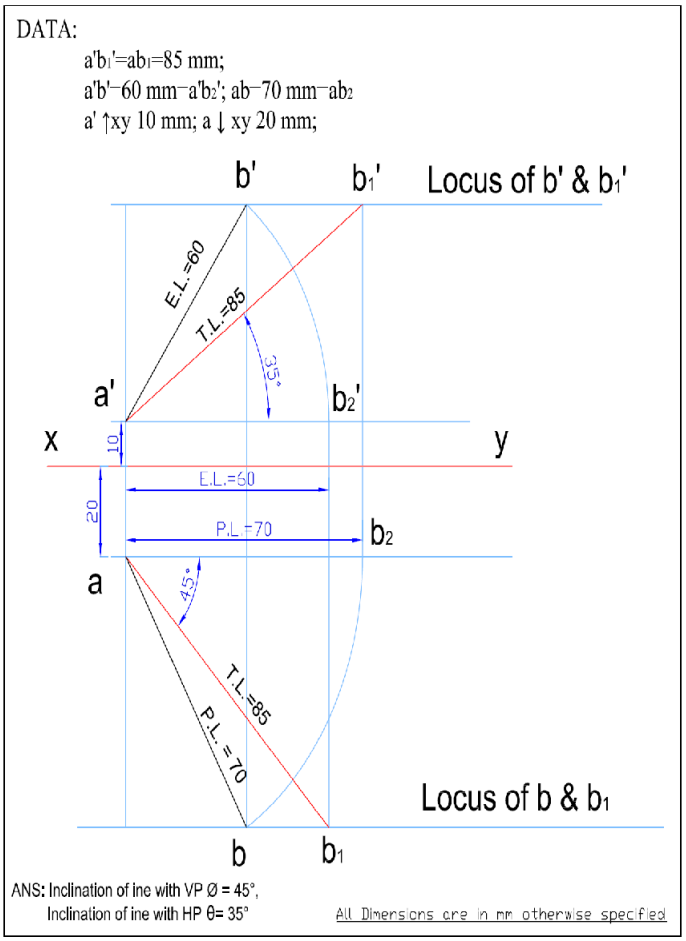
Examination: FE Semester II

Course Code: FEC204

Course Name: Engineering Drawing

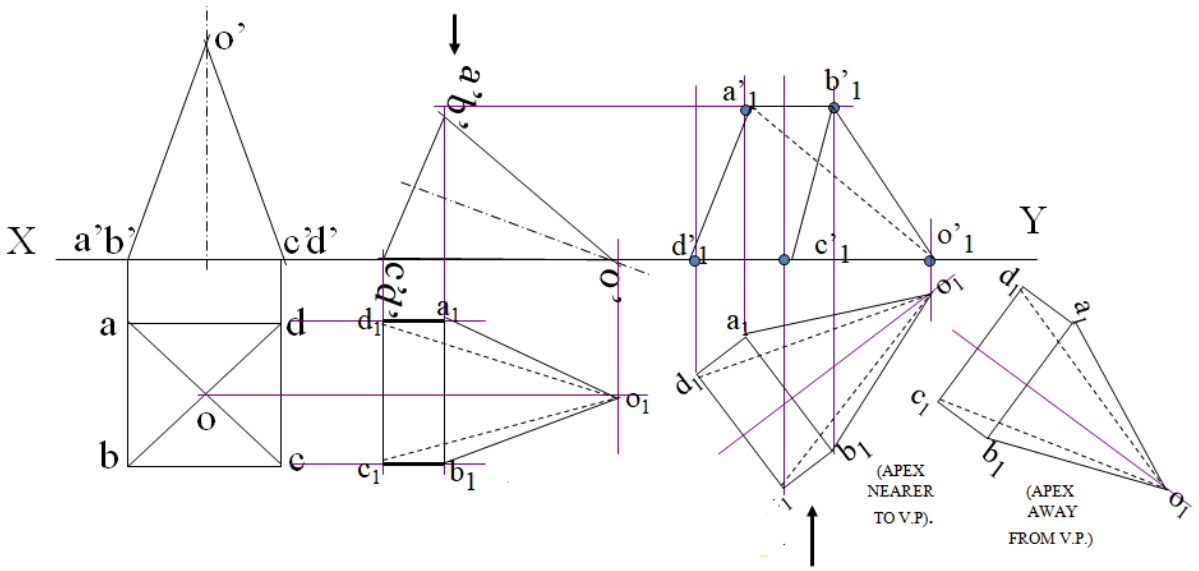
Time: 2 hour Max. Marks: 60

Q1. A



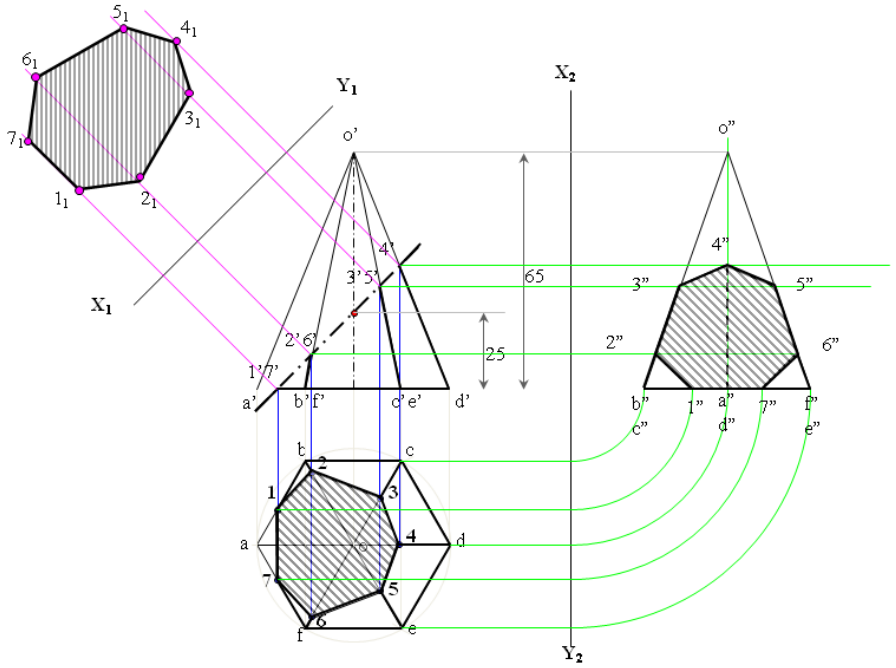
b. Self explanatory.

Q2 a.



b. Self explanatory

c.



Q3 Self explanatory

University of Mumbai

Examination 2020 under cluster 03(Lead College: FRCIT)

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: First Year Engineering

Curriculum Scheme: Rev2012

Examination: FE Semester II

Course Code: FEC205 and Course Name: Structured Programming Approach

Time: 2 hour Max. Marks: 80

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	C programs are converted into machine language with the help of ----------.
Option A:	an editor
Option B:	an Assembler
Option C:	a compiler
Option D:	an operating system
2.	The value obtained in the function is given back to the main program by using which keyword?
Option A:	new
Option B:	return
Option C:	volatile
Option D:	static
3.	An array Index starts with.?
Option A:	0
Option B:	1
Option C:	-1
Option D:	2
4.	Choose a right statement. int a = 11 + 4.867;
Option A:	a=11
Option B:	a=15.867
Option C:	a=10
Option D:	a=15
5.	Which of the following is not a valid representation in bits?
Option A:	8-bit
Option B:	32-bit
Option C:	24-bit
Option D:	64-bit
6.	Pointer variable may be assigned_____.
Option A:	an address value represented in hexadecimal.
Option B:	an address value represented in octal.
Option C:	the address of another variable.

Option D:	an address value represented in binary
7.	Which of the following is not a relational operator?
Option A:	>=
Option B:	>>
Option C:	==
Option D:	!=
8.	Which of the following is incorrect? Algorithms can be represented:
Option A:	as pseudo codes
Option B:	as syntax
Option C:	as programs
Option D:	as flowcharts
9.	Which among the following is the odd one out?
Option A:	printf()
Option B:	scanf()
Option C:	putchar()
Option D:	fprintf()
10.	What is the purpose of “rb” in fopen() function used below in the code?
Option A:	Open “source.txt” in binary mode for reading
Option B:	open “source.txt” in binary mode for reading and writing
Option C:	Create a new file “source.txt” for reading and writing
Option D:	Create a new file “source.txt”

11.	What is the output of the program.?
	#include<stdio.h>
	int main()
	{
	float a = 45;
	printf(“%f”, a);
	return 0;
	}

Option A:	45
Option B:	45.0
Option C:	45.000000
Option D:	0.000000
12.	The member variable of structure is accessed by using .
Option A:	dot (.) operator.
Option B:	arrow (->) operator.
Option C:	asterisk * operator.
Option D:	ampersand & operator.
13.	Select the wrong branching statement of C language
Option A:	if statement
Option B:	if…else statement
Option C:	do while

Option D:	switch case
14.	What is the term given to the variable whose scope is beyond all the scopes i.e., it can be accessed by all the functions?
Option A:	Universal Variable
Option B:	Global variable
Option C:	External variable
Option D:	Auto variable
15.	A file opened in w+ mode can be .
Option A:	only write.
Option B:	only read.
Option C:	read/write.
Option D:	only close.
16.	Identify the wrong declaration statement .
Option A:	int a=10,*p=&a;
Option B:	int *p;
Option C:	int *p, a=10;
Option D:	int *p=&a, =10;

17.	What is the output of the C statement.?
	#include<stdio.h>
	int main()
	{
	int a=0;
	a = 5<2 ? 4 : 3;
	printf("%d",a);
	return 0;
	}

Option A:	4
Option B:	3
Option C:	5
Option D:	2
18.	The pointers can be used to achieve .
Option A:	call by function.
Option B:	call by name.
Option C:	call by procedure.
Option D:	call by reference.
19.	Which one of the following is a valid C expression?
Option A:	int my number=1000;
Option B:	int my-number=1000;
Option C:	int my@number=1000;
Option D:	int @mynumber=1000;
20.	What will be the output of the following C code? #include <stdio.h> void main()

	{
	int x = 5;
	if (x == 5)
	printf("hi\n");
	else
	printf("how are u\n");
	printf("hello\n");
	}

Option A:	how are you hello
Option B:	how are you
Option C:	hi
Option D:	hi hello

Q2	**Solve any Four out of Six** **5 marks each**
A	Write a program to validate weather accepted string is palindrome or not.
B	Write a recursive program to calculate factorial of accepted number.
C	Explain difference between call by value and call by reference.
D	Write a program to calculate transpose of matrix.
E	Write a program to generate following pattern 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5
F	What is difference between while and do while loop.

Q3	**Solve any Two Questions out of Three** **5 marks each**
A	Write a program to display Armstrong numbers from 1 to 1000
B	Explain various storage classes used in c with example.
C	Write an algorithm to sort a set of numbers in ascending order.
D	Write a program to find biggest of given 3 numbers using conditional operator.
E	Write a program to store and display at least 10 records of the name, roll number and fees of a students using structure.
F	What is a File? What are different mode in which we can open a file? What are the different functions to read and write to file?

University of Mumbai

Examination 2020 under cluster 03 (Lead College: FRCIT)

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: First Year Engineering

Curriculum Scheme: Rev2012

Examination: FE Semester II

Course Code: FEC205 and Course Name: Structured Programming Approach

Time: 2 hour Max. Marks: 80

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	B
Q3.	A
Q4	D
Q5	C
Q6	C
Q7	B
Q8.	B
Q9.	B
Q10.	A
Q11.	C
Q12.	A
Q13.	C
Q14.	B
Q15.	C
Q16.	D
Q17.	B
Q18.	D
Q19.	A
Q20.	D

University of Mumbai

Examination 2020 under cluster 3(Lead College: FCRIT)

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: First Year Engineering

Curriculum Scheme: Rev2012

Examination: FE Semester II

Course Code: FEC206 and Course Name: Communication Skills

Time: 1hour Max. Marks: 40

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	The study of time as a communication tool is known as:
Option A:	Paralinguistics
Option B:	Proxemics
Option C:	Haptics
Option D:	Chronemics
2.	The process of communication is:
Option A:	One-way process
Option B:	Sender oriented
Option C:	Two-way process
Option D:	Disorganized
3.	Which of the following is a Vertical channel of Communication in the organization?
Option A:	External
Option B:	Horizontal
Option C:	Informal
Option D:	Upward
4.	Spoken or written in two languages
Option A:	Bias
Option B:	Biography
Option C:	Bilingual
Option D:	Bewilder
5.	This type of listening involves putting yourself in the position of the speaker:
Option A:	Appreciative Listening
Option B:	Evaluative Listening
Option C:	Selective Listening
Option D:	Empathetic listening
6.	Which of the given options is a Synonym of “Deceive”?
Option A:	Betray
Option B:	Criticize
Option C:	Friendly
Option D:	Celebrate

7.	Correct sequence of contents of signature block are:
Option A:	Sender's name, signature, and official designation.
Option B:	Sender's official designation, signature and name.
Option C:	Sender's signature, name and official designation.
Option D:	Only sender's signature and name.
8.	A Drill is a shaftlike _____ with a pointed end for boring holes in hard materials, used by rotation.
Option A:	Device
Option B:	Tool
Option C:	Instrument
Option D:	Appliance
9.	Identify barrier in the following example: "The chief guest uses technical terms in his speech on the Big Bang Theory. The children failed to understand."
Option A:	Linguistic barrier
Option B:	Physical barrier
Option C:	Cross cultural barrier
Option D:	Psychological barrier
10.	"Use gloves to safeguard your hands" - is an example of what in the context of technical writing?
Option A:	Note
Option B:	Precaution
Option C:	Caution
Option D:	Definition

Q2.	**Solve any Two out of Three** **5 marks each**
A	Explain Socio-Psychological Barriers. Suggest remedies to eliminate these barriers from communication.
B	Compare and contrast between oral and written communication
C	Messrs Prabhu Das & Co., Pune have complained to you that they have received your last Consignment in a badly damaged condition on account of loose packing. On behalf of Lokmanya Glassworks Ltd., Mumbai, write a reply suitably adjusting their claim. Use Complete Block Layout for the letter.
Q3.	**Solve any Two out of Three** **5 marks each**
A	"55% of messages received and processed by the brain are based on your body language." In the light of this statement explain kinesics.
B	Explain the Principles of Business Correspondence.
C	Write a technical Description of a clinical thermometer.

University of Mumbai

Examination 2020 under cluster __ (Lead College: _____)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: First Year Engineering

Curriculum Scheme: Rev2012

Examination: FE Semester II

Course Code: FEC206 and Course Name: Communication Skills

Time: 1hour Max. Marks: 40

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	C
Q3.	D
Q4	C
Q5	D
Q6	A
Q7	C
Q8.	B
Q9.	A
Q10.	B