CBCS SCHEME

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BMATS101

First Semester B.E./B.Tech. Degree Examination, June/July 2024
Mathematics for CSE Stream – I

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	With usual notation prove that $\tan\phi = r\frac{d\theta}{dr}$.	6	L2	CO1
	b.	Find the angle between the curves $r = \frac{a}{1+\cos\theta}$ and $r = \frac{b}{1-\cos\theta}$.	7	L2	CO1
	c.	Show that the radius of curvature at any point θ on the cycloid $x = a(\theta + \sin\theta)$, $y = a(1 - \cos\theta)$ is $4\cos\left(\frac{\theta}{2}\right)$.	7	L3	CO1
		OR			
Q.2	a.	Find the pedal equation of the curve $r(1 - \cos\theta) = 2a$.	7	L2	CO1
	b.	Find the radius of curvature for the curve $y^2 = \frac{a^2(a-x)}{x}$ at the point (a, 0).	8	L3	CO1
	c.	Using modern mathematical tool write a program / code to plot the sine and cosine curve.	5	L3	CO5
		Module – 2			
Q.3	a.	Expand log(secx) upto the term containing x^4 using Maclausin's series.	6	L2	CO2
	b.	If u = log(tanx + tany + tan2), show that $\sin 2x\frac{\partial u}{\partial x} + \sin 2y\frac{\partial u}{\partial y} + \sin 2z\frac{\partial u}{\partial 2} = 2$.	7	L2	CO2
	c.	Find the extreme values of the function $f(x, y) = x^2 + y^2 + 6x - 12$.	7	L3	CO2
		OR			
Q.4	a.	Evaluate i) $\lim_{x\to 0}\frac{(a^x + b^x)}{2}^{1/x}$ ii) $\lim_{x\to 0}\left(\frac{\tan x}{x}\right)^{1/x^2}$.	7	L2	CO2
	b.	If $u = f\left(\frac{x}{y}, \frac{y}{z}, \frac{z}{x}\right)$, show that $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} + 2\frac{\partial u}{\partial z} = 0$.	8	L2	CO2
	c.	Using modern mathematical tool write a program/code to evaluate $\underset{x\to\infty}{\text{lt}}(1+1/x)^x$.	5	L3	CO2

		Module – 3			
Q.5	**a.**	Solve : $\frac{dy}{dx}+\frac{y}{x}=y^2x$.	6	L2	CO3
	b.	Find the orthogonal trajectories of $r = a(1+\cos\theta)$, where a is a parameter.	7	L3	CO3
	c.	Find the general solution of the equation $(px-y)(py+x) = 2p$ by reducing into Clairaut's form by taking the substitution $X = x^2$, $Y = y^2$.	7	L2	CO3
		OR			
Q.6	**a.**	Solve $(y \log y)\,dx + (x - \log y)dy = 0$.	6	L2	CO3
	b.	Prove that the system of parabolas $y^2 = 4a(x + a)$ is self-orthogonal.	7	L3	CO3
	c.	Solve : $xyp^2 - (x^2 + y^2)p + xy = 0$.	7	L2	CO3
		Module – 4			
Q.7	**a.**	i) Find the last digit of 7^{2013} ii) Find the last digit of 13^{37}	6	L2	CO4
	b.	i) Find the remainder when $175 \times 113 \times 53$ is divided by 11. ii) Find the remainder when 2^{23} is divided by 47.	7	L2	CO4
	c.	Encrypt the message STOP using RSA with key (2537, 13) using the prime numbers 43 and 59.	7	L3	CO4
		OR			
Q.8	**a.**	Solve $2x + 6y \equiv 1 \pmod 7$ $4x + 3y \equiv 2 \pmod 7$.	6	L2	CO4
	b.	Using Fermat's little theorem, show that $8^{30} - 1$ is divisible by 31.	7	L2	CO4
	c.	Show that $4(29)! + 5!$ Is divisible by 31.	7	L3	CO4
		Module – 5			
Q.9	**a.**	Find the Rank of the matrix $\begin{bmatrix} 2 & -1 & -3 & -1 \\ 1 & 2 & 3 & -1 \\ 1 & 0 & 1 & 1 \\ 0 & 1 & 1 & -1 \end{bmatrix}$	6	L2	CO5
	b.	Solve the system of Equations by Gauss-Jordon method $x + y + z = 9$ $2x + y - z = 0$ $2x + 5y + 7z = 52$.	7	L3	CO5
	c.	Using power method, find the largest eigen value and the corresponding eigen vector of the matrix $A = \begin{bmatrix} 2 & 0 & 1 \\ 0 & 2 & 0 \\ 1 & 0 & 2 \end{bmatrix}$. Carry out six iterations.	7	L3	CO5

		OR			
Q.10	**a.**	Solve the following system of equations by Gauss-Siedel method. $27x + 6y - z = 85$, $6x + 15y + 2z = 72$, $x + y + 54z = 110$. Carry out three iterations.	**7**	**L3**	**CO5**
	b.	Investigate for what values of λ, μ the equations $x + y + z = 6$, $x + 2y + 3z = 10$, $x + 2y + \lambda z = \mu$ have i) No solution ii) Unique solution iii) Infinite number of solutions.	**8**	**L3**	**CO5**
	c.	Using modern mathematical tool, write a program/code to test the consistency of the equation $x + 2y - z = 1$ $2x + y + 4z = 2$ $3x + 3y + 4z = 1$	**5**	**L3**	**CO5**

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CBCS SCHEME

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Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Mathematics – II for CSE Stream

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. VTU Hand book is permitted.

		Module – 1	M	L	C
Q.1	a.	Evaluate $\int_0^a\int_0^x\int_0^{x+y} e^{(x+y+z)}\,dz\,dy\,dx$.	7	L2	CO1
	b.	By changing the order of integration evaluate $\int_0^{4a}\int_{x^2/4a}^{2\sqrt{ax}} xy\,dy\,dx$.	7	L3	CO1
	c.	With usual notation, prove that $\Gamma\left(\frac{1}{2}\right)=\sqrt{\pi}$.	6	L2	CO1
		OR			
Q.2	a.	Evaluate $\int_0^a\int_0^{\sqrt{a^2-y^2}} y^2\sqrt{x^2+y^2}\,dx\,dy$ by changing into polar coordinates.	7	L3	CO1
	b.	Find the area bounded between the parabolas $y^2 = 4ax$ and $x^2 = 4ay$ by double integration.	7	L2	CO1
	c.	Using Mathematical tool, write the code to find the volume bounded by the sphere $x^2 + y^2 + z^2 = a^2$ by double integration.	6	L3	CO5
		Module – 2			
Q.3	a.	Find the directional derivative of $\phi = xy^3 + yz^3$ at the point (2, -1, 1) in the direction of the vector $\hat{i}+2\hat{j}+2\hat{k}$.	7	L2	CO2
	b.	Verify whether the vector $\vec{F}=\dfrac{x\hat{i}+y\hat{j}}{x^2+y^2}$ is both solenoidal and irrotational.	7	L2	CO2
	c.	Prove that the cylindrical coordinate system is orthogonal.	6	L2	CO2
		OR			
Q.4	a.	If $\vec{F}=\nabla(x^3+y^3+z^3-3xyz)$ find div $\vec{F}$ and curl $\vec{F}$.	7	L2	CO2
	b.	Find the angle between the normal's to the surface $x^2yz = 1$ at the points (-1, 1, 1) and (1, -1, -1).	7	L3	CO2
	c.	Using mathematical tool write the code to find divergence and curl of the vector $\vec{F}=(4xy-z^3)\hat{i}+2x^2\hat{j}-3xz^2\hat{k}$.	6	L3	CO5

Module – 3

Q.No.		Question	Marks	Level	CO
Q.5	a.	Let W be a subset of $V_3(R)$ consisting of vectors of the form (a, a^2, b) where the second component is the square of the first. Is W a subspace of $V_3(R)$.	7	L2	CO3
	b.	Let P_n be the vector space of real polynomial functions of degree $\leq$ n. Verify that the transformation $T : P_2 \rightarrow P_1$ defined by $T(ax^2 + bx + c) = (a + b)x + c$ is linear.	7	L2	CO3
	c.	Find the Kernel and range of the linear transformation $T : R^3 \rightarrow R^2$ defined by $T(x, y, z) = (x + y, z)$.	6	L2	CO3

OR

Q.No.		Question	Marks	Level	CO
Q.6	a.	Determine whether or not each of the following $x_1 = (2, 2, 1)$, $x_2 = (1, 3, 7)$, $x_3 = (1, 2, 3)$ forms a basis in R^3.	7	L2	CO3
	b.	Verify Rank-nullity theorem for the transformation $T : R^3 \rightarrow R^3$ defined by $T(x, y, z) = (x + 2y - z, y + z, x + y - 2z)$.	7	L2	CO3
	c.	The inner product of the polynomials $f(t) = t + 2$, $g(t) = 3t - 2$ in p(t) is given by $<f, g> = \int_0^1 f(t)g(t)\,dt$. Find i) $<f, g>$ ii) $\|f\|$ iii) $\|g\|$	6	L2	CO3

Module – 4

Q.No.		Question	Marks	Level	CO
Q.7	a.	Find an approximate root of the equation $\cos x = 3x - 1$ correct to four decimal places using Regula Falsi method between 0.5 and 0.7.	7	L2	CO4
	b.	The area 'A' of a circle of diameter 'd' is given by the following table: d: 80, 85, 90, 95, 100 A: 5026, 5674, 6362, 7088, 7854 Using appropriate Newton's interpolation formula for equispaced values of x, find area of the circle corresponding to the diameter 105.	7	L2	CO4
	c.	Evaluate $I = \int_0^5 \frac{1}{4x+5}\,dx$ by Simpson's 1/3rd rule by considering 10 sub intervals. Hence find an approximate value of log5.	6	L3	CO4

OR

Q.No.		Question	Marks	Level	CO
Q.8	a.	Find the real root of $x \log_{10} x = 1.2$ correct to four decimals that lies near 2.5 using Newton Raphson method.	7	L2	CO4
	b.	Fit a polynomial for the following data using Newton's divided difference formula: x: -4, -1, 0, 2, 5 y: 1245, 33, 5, 9, 1335	7	L2	CO4
	c.	Use trapezoidal rule to find $\int_0^{0.6} e^{-x^2}\,dx$ by taking seven ordinates.	6	L3	CO4

Table in Q.7 b:

d:	80	85	90	95	100
A:	5026	5674	6362	7088	7854

Table in Q.8 b:

x:	-4	-1	0	2	5
y:	1245	33	5	9	1335

		Module – 5			
Q.9	a.	Employ Taylor's series method to obtain approximate solution at x = 0.1 and x = 0.2 for the initial value problem $\frac{dy}{dx} = 2y + 3e^x$, $y(0) = 0$.	7	L2	CO4
	b.	Apply Runge-Kutta method of fourth order to find an approximate solution at x = 0.1 given $\frac{dy}{dx} = 3x + y/2$, $y(0) = 1$.	7	L2	CO4
	c.	Apply Milne's predictor – corrector method to solve the equation $(y^2 + 1)dy - x^2dx = 0$ at x = 1 given y(0) = 1, y(0.25) = 1.0026, y(0.5) = 1.0206, y(0.75) = 1.0679.	6	L2	CO4
		OR			
Q.10	a.	Apply modified Euler's method to find solution at x = 0.1 by taking h = 0.1 given $y' = x^2 + y^2$, $y(0) = 0$.	7	L2	CO4
	b.	Find an approximate solution of $\frac{dy}{dx} = \frac{y^2 - x^2}{y^2 + x^2}$, $y(0) = 1$ at x = 0.2 using Runge-Kutta method of order four.	7	L2	CO4
	c.	Write the mathematical tool code to solve $\frac{dy}{dx} = x^2 + y$, y(0) = 10 using Taylor's series method at x = 0,1(0.1)0.3. Consider the terms upto fourth degree.	6	L3	CO5

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CBCS SCHEME

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BCHES102/202

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2024

Applied Chemistry for CSE Stream

Time: 3 hrs. Max. Marks: 100

Note: *1. Answer any FIVE full questions, choosing ONE full question from each module.*
2. VTU Formula Hand Book is permitted.
3. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	What are electrochemical sensors? Explain the principle and working of electrochemical sensor.	07	L1	CO1
	b.	Explain the principle, working and any two applications of optical sensor.	06	L1	CO1
	c.	What is Quantum Dot sensitized solar cell? Explain the construction and working of Quantum Dot sensitized solar cell.	07	L1	CO1
		OR			
Q.2	a.	Explain the detection of bio-molecule ascorbic acid using disposable sensor and also write the electro oxidation reaction.	07	L1	CO1
	b.	Explain the working principle of electrochemical gas sensors for the detection of SO_x and NO_x .	06	L1	CO1
	c.	Explain the construction and working of Li-ion battery. Mention any two applications.	07	L1	CO1
		Module – 2			
Q.3	a.	What are memory devices? Explain the classification of electronic memory devices.	07	L2	CO2
	b.	Define optoelectronic device. Explain the working principle of optoelectronic device.	06	L2	CO2
	c.	What are liquid crystals? Explain the classification of liquid crystals.	07	L2	CO2
		OR			
Q.4	a.	Explain the types of organic memory devices by talking p-type and n-type semiconducting materials.	07	L2	CO2
	b.	Explain any three properties and applications of polythiophene (P3HT) suitable for optoelectronic devices.	06	L2	CO2
	c.	What is QLED? Mention any three properties and applications of QLED.	07	L2	CO2
		Module – 3			
Q.5	a.	Define metallic corrosion. Explain electrochemical theory of corrosion.	07	L3	CO3
	b.	A thick steel sheet of area 400 $inch^2$ is exposed to moist air. After 2 years of period, it was found to experience a weight lost of 375g due to corrosion if the density of steel is 7.9 g/cm^3, calculate CPR in mpy and mmpy.	06	L1	CO3
	c.	What are reference electrodes? Explain the construction, working and applications of calomel electrode.	07	L1	CO3
		OR			
Q.6	a.	What is galvanization? Explain galvanization of Iron. Mention its applications.	07	L1	CO3
	b.	What are concentration cells? Calculate the cell potential of the following cell at 298 K. $Ag \mid AgNO_3(0.005M) \parallel AgNO_3\ (0.5M) \mid Ag$	06	L1	CO3
	c.	Explain the principle and instruction of conductometry taking estimation of weak acid using a strong base as an example.	07	L2	CO3

		Module – 4			
Q.7	a.	In a sample of a polymer 20% molecules have molecular mass 15,000g/mol, 35% molecules have molecular mass 20000g/mol. Calculate the number average and weight average molecular mass of the polymer.	07	L3	CO4
	b.	Explain the preparation of Kevlar. Mention any four applications.	06	L2	CO4
	c.	Explain the generation of hydrogen by Alkaline water electrolysis with a neat labelled diagram.	07	L2	CO4
		OR			
Q.8	a.	What are conducting polymers? Explain the conduction mechanism in polyacetylene through oxidative doping technique. Mention any two applications.	07	L3	CO4
	b.	What arc PV cells? Explain the construction and working of photovoltaic cell.	06	L2	CO4
	c.	Explain the generation of hydrogen by proton exchange membrane electrolysis.	07	L2	CO4
		Module – 5			
Q.9	a.	Define E-waste. Explain the sources and composition of E-waste.	07	L2	CO5
	b.	Explain the ill effects of materials used in manufacturing electrical and electronic products.	06	L2	CO5
	c.	Explain pyrometallurgical process of extraction of E-waste.	07	L2	CO5
		OR			
Q.10	a.	Explain the extraction of gold from E-waste.	07	L2	CO5
	b.	Explain direct recycling of E-waste.	06	L2	CO5
	c.	Write a brief note on role of stakeholders for example, producers consumers, recyclers and statutory bodies in management of E-waste.	07	L2	CO5

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BETCK105E/BETCKE105

First Semester B.E./B.Tech. Degree Examination, June/July 2024
Renewable Energy Sources

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	What are Renewable Energy Sources?	2	L2	CO1
	b.	What do you mean by sustainable development of Energy? What are its implications?	10	L2	CO1
	c.	Discuss the potential of Renewable Energy sources, with reference to India.	8	L2	CO1
		OR			
Q.2	a.	Write short notes on : i) Wave Energy ii) Oil Shale.	10	L2	CO1
	b.	What do you mean by Internet of Energy? Explain the Internet of Energy (IOE) relating the Renewable Energy Sources.	10	L2	CO1
		Module – 2			
Q.3	a.	What is Beam , Diffuse and Global radiation? Name the instruments used to measure these radiations.	4	L2	CO2
	b.	Explain the working of a Pyranometer with a neat sketch.	6	L2	CO2
	c.	Explain the construction and working of a flat plate collector.	10	L2	CO2
		OR			
Q.4	a.	What is a Solar Pond? Explain the working of a solar pond electric power plant with a neat diagram.	10	L2	CO2
	b.	What is a Solar Cell? Explain the principle of solar photovoltaic power generation.	10	L2	CO2
		Module – 3			
Q.5	a.	What are the different properties of wind?	5	L2	CO3
	b.	Explain with a neat sketch, the essential components of the wind energy convention system.	10	L2	CO3
	c.	What are the major problems associated with wind power?	5	L2	CO3
		OR			
Q.6	a.	Explain the process of Photosynthesis.	6	L2	CO3

	b.	What is the difference between Biomass and Biogas?	4	L2	CO3
	c.	Explain the process of Biogas production using downdraft gasifier.	10	L2	CO3
		Module – 4			
Q.7	a.	What is Tidal Energy? Explain the mechanics of Tidal Energy.	10	L2	CO4
	b.	Explain the working of a single basin tidal power plant, with a neat sketch.	10	L2	CO4
		OR			
Q.8	a.	Describe the working of closed cycle OTEC, with necessary diagram.	10	L2	CO4
	b.	What are the problems associated with OTEC?	6	L2	CO4
	c.	Differentiate between Tidal and Wave energy.	4	L2	CO4
		Module – 5			
Q.9	a.	What is a Fuel cell?	2	L2	CO5
	b.	Give the classification of Fuel cell based on i) Tyre of Electrolyte used ii) Operating temperature iii) Physical state of fuel used.	8	L2	CO5
	c.	Explain the principle of working of a fuel cell with reference to $H_2 - O_2$ cell.	10	L2	CO5
		OR			
Q.10	a.	List various methods used for production of hydrogen used as an Energy carrier. Explain Electrolysis method for its production.	10	L2	CO5
	b.	List different methods used for Hydrogen storage and explain briefly any one method.	6	L2	CO5
	c.	Explain in brief the problems associated with hydrogen.	4	L2	CO5

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(61) 8:20 – 11:30

CBCS 2022 – SCHEME

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BCEDK103/203

First / Second Semester B.E. Degree Examination, June/July 2024

COMPUTER AIDED ENGINEERING DRAWING

Time: 3 Hours **(COMMON TO ALL BRANCHES)** **Max.Marks:100**

Note: 1. Answer all four full question

2. Grid sheets may be provided for making preparatory sketches

Q. No.		Marks
	Module - 1	
1	A $30^0 - 60^0$ set square of 60 mm longest side is so kept such that the longest side is in HP, making an angle of 30^0 with VP. The set square itself is inclined at 45^0 to HP. Draw the projections of the setsquare.	20
	Module - 2	
2	A square pyramid 35 mm sides of base and 60 mm axis length rests on HP on one of its slant edges. Draw the projections of the pyramid when the axis is inclined to VP at 45^0.	30
	Module – 3	
3	A hemisphere of 40 mm diameter is supported co-axially on the vertex of a cone of base diameter 60 mm and axis length 50 mm. The flat circular face of hemisphere is facing upside. Draw the isometric projection of the combination of solids.	25
	Module – 4	
4	A square prism of base sides 30 mm and axis length 60 mm is resting on HP with all the vertical faces equally inclined to VP. It is cut by an inclined plane 60^0 to HP and perpendicular to VP and is passing through a point on the axis at a distance of 50 mm from the base. Obtain the development for the truncated portion of the solid.	25

Examiner 1:
Name:
Signature:

Examiner 2:
Name:
Signature:

(R2) 11:30 - 2:30

CBCS 2022 – SCHEME

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BCEDK103/203

First / Second Semester B.E. Degree Examination, June/July 2024

COMPUTER AIDED ENGINEERING DRAWING

Time: 3 Hours **(COMMON TO ALL BRANCHES)** **Max.Marks:100**

Note: 1. Answer all four full question

2. Grid sheets may be provided for making preparatory sketches

Q. No.		Marks
	Module – 1	
1	A circular lamina of 50 mm diameter rests on HP such that one of its diameters is inclined at 30^0 to VP and 45° to HP. Draw its top and front views in this position.	20
	Module – 2	
2	A hexagonal prism 25 mm sides of base and 50 mm axis length rests on HP on one of its base edges. Draw the projections of the prism when the axis is inclined to HP at 45^0 and appears to be inclined to VP 40^0.	30
	Module – 3	
3	The frustum of a square pyramid of base sides 40 mm and top face side 20 mm and height 60 mm rest on the center of the top of a square block of side 60 mm and height 20 mm. The base edges of the pyramid are parallel to the top edges of the square block. Draw the isometric projection of the combination of the solids.	25
	Module - 4	
4	A square prism of base side 40 mm and axis length 65 mm is resting on HP on its base with all the vertical faces being equally inclined to VP. It is cut by an inclined plane 60^0 to HP and perpendicular to VP and is passing through the point on the axis at a distance 15 mm from the top face. Draw the development of the lower portion of the prism.	25

Examiner 1:
Name:
Signature:

Examiner 2:
Name:
Signature:

2:30 - 5:30pm

CBCS 2022 – SCHEME

USN | | | | | | | | | | |

BCEDK103/203

First / Second Semester B.E. Degree Examination, June/July 2024

COMPUTER AIDED ENGINEERING DRAWING

Time: 3 Hours **(COMMON TO ALL BRANCHES)** **Max.Marks:100**

Note: 1. Answer all four full questions

2. Grid sheets may be provided for making preparatory sketches

	Module - 1	
Q. No.		**Marks**
1	A square lamina of 40 mm side rests on one of its sides on HP. The lamina makes 30° to HP and the side on which it rests makes 45° to VP. Draw its projections.	20
	Module - 2	
2	A tetrahedron of 55 mm sides rests on one of its corners such that an edge containing that corner is inclined to HP at 50^0 and VP at 30^0. Draw its projections.	30
	Module - 3	
3	A sphere of diameter 50 mm rests centrally on top of a cube of sides 50 mm. Draw the isometric projections of the combination of solids.	25
	Module - 4	
4	A square prism of base side 40 mm and axis length 65 mm is resting on HP on its base with all the vertical faces being equally inclined to VP. It is cut by an inclined plane 60^0 to HP and perpendicular to VP and is passing through the point on the axis at a distance 15 mm from the top face. Draw the development of the lower portion of the prism.	25

Examiner 1:
Name:
Signature:

Examiner 2:
Name:
Signature:

CBCS SCHEME

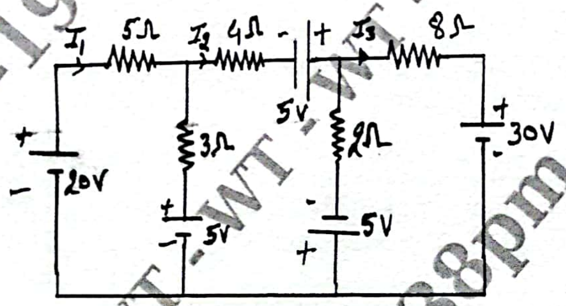
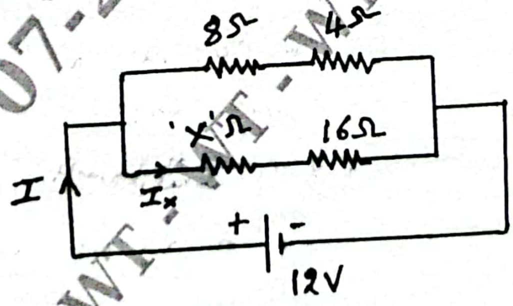
USN | | | | | | | | | |

BESCK104B/ BESCKB104

First Semester B.E./B.Tech. Degree Examination, June/July 2024
Introduction to Electrical Engineering

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. VTU databook is permitted.

		Module – 1	M	L	C
Q.1	a.	Write the general structure of electrical power system using single line diagram approach and explain briefly.	6	L2	CO1
	b.	State ohm's law and mention its limitations.	6	L2	CO1
	c.	Find the currents I_1, I_2, I_3 for the circuit Fig Q1(c), shown below using Kirchoff's laws.  Fig Q1(c)	8	L3	CO1
		OR			
Q.2	a.	With a neat block diagram approach, explain Hydro-electric power plant.	6	L2	CO1
	b.	State Kirchoff's current and voltage law and write their the general mathematical expression.	6	L2	CO1
	c.	If the total power dissipated in the circuit Fig Q2(c), show below is 18W. Calculate the value of unknown resistance 'X' in ohms and the current flowing through it 'I_x'.  Fig Q2(c)	8	L2	CO2

		Module – 2			
Q.3	**a.**	Define the following parameters with respect to ac sinusoidal waveform. i) RMS value ii) Average value iii) Form factor iv) Peak factor.	**4**	**L2**	**CO1**
	b.	Explain the concept of generation of 3ϕ A.C voltages with neat waveforms.	**6**	**L2**	**CO2**
	c.	Write a neat diagram of pure inductive circuit supplies by A.C sinusoidal voltage and derive the relation between instantaneous voltage and current. Draw the relevant vector diagram.	**6**	**L3**	**CO2**
	d.	A balanced Y – connected load is supplied from a balanced 3ϕ, 400V, 50Hz system. The current in each phase is 30A and lags 30° behind the phase voltage. Find the phase voltage and total power.	**4**	**L3**	**CO2**
		OR			
Q.4	**a.**	Define the following parameters with respect to a.c sinusoidal waveform : i) Amplitude ii) Frequency iii) Peak to Peak value iv) Instantaneous value.	**4**	**L2**	**CO1**
	b.	Write a neat circuit of resistance in series with capacitance supplied by A.C. sinusoidal voltage. Derive the expression for power consumed and write and relevant power wave forms.	**6**	**L3**	**CO2**
	c.	A series circuit with R = 10Ω, L = 50mH, C = 100μF is supplied with 200V, 50Hz, a.c supply. Calculate the i) impedance ii) Supply current iii) Power iv) Power factor of the circuit.	**6**	**L3**	**CO2**
	d.	Define power factor of an a.c circuit. Mention its significance in electrical systems.	**4**	**L2**	**CO2**
		Module – 3			
Q.5	**a.**	With neat relevant diagram, explain the principle of operation of D.C motor. Briefly mention the significance of back.	**8**	**L2**	**CO3**
	b.	Derive an expression for induced emf of a D.C generator.	**6**	**L2**	**CO3**
	c.	A 4 pole D.C shunt motor takes 25A from 250Vsupply. The armature and field resistance are 0.5Ω and 125Ω respectively. The wave wound armature has 30 slots with 10conductors in each slot. If the flux per pole is 0.02wb. Calculate speed, torque developed and power developed in armature.	**6**	**L3**	**CO3**
		OR			
Q.6	**a.**	With a neat sketch, explain the construction and main parts of D.C generator. Mention the function of each part and material used to manufacture them.	**8**	**L2**	**CO3**
	b.	Derive an expression for torque developed by a D.C motor.	**6**	**L3**	**CO3**
	c.	A 30kW, 300V, D.C shunt generator has armature and field resistance of 0.05Ω and 100Ω respectively. Calculate power developed by the armature when it delivers full output power.	**6**	**L3**	**CO3**

		Module – 4			
Q.7	**a.**	List the various losses in a transformer. Explain how they vary with the load. Give their equations and mention how they are minimized.	**8**	**L2**	**CO3**
	b.	Explain the construction of slip ring and squirrel cage type induction motor.	**6**	**L2**	**CO4**
	c.	An 8-pole alternator runs at 750rpm and it supplies power to 4 pole induction motor. The frequency of rotor is 1.5Hz. Calculate the speed of the motor and also slip of motor.	**6**	**L3**	**CO4**
		OR			
Q.8	**a.**	A 600KVA transformer has an efficiency of 92% at full load, upf and at half load, 0.9p.f. Determine its efficiency at 75% of full load, 0.9p.f.	**8**	**L3**	**CO4**
	b.	A 250KVA, 11000/415V, 50Hz 1-ϕ transformer has 80 turns on secondary. Calculate : i) The rated primary and secondary currents ii) The number of primary turns iii) The maximum value of flux iv) Voltage induced per turn.	**6**	**L3**	**CO4**
	c.	Define slip of an induction motor. Derive an expression for effect of slip on the rotor frequency.	**6**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	With neat sketch, explain the working principle of a fuse. Mention its merits and demerits.	**8**	**L2**	**CO5**
	b.	What is electric shock? Mention few safety precautions to avoid electric shocks.	**6**	**L2**	**CO5**
	c.	What is electricity tariff? Explain two part electricity tariff.	**6**	**L2**	**CO5**
		OR			
Q.10	**a.**	With a neat circuit and switching table. Explain 3-ways control of load. Mention where it is applicable.	**8**	**L3**	**CO5**
	b.	What is earthing? With a neat diagram explain pipe earthing.	**6**	**L2**	**CO5**
	c.	Mention the power rating of the following electrical appliances. i) Air conditioners ii) Laptops iii) LED tubelights iv) Washing machines Calculate the total power consumed by these four appliances.	**6**	**L4**	**CO5**

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CBCS SCHEME

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BESCK204C/BESCKC204

Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Introduction to Electronics and Communication

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Draw the block diagram of Regulated power supply and mention the function of each block.	8	L2	CO1
	b.	With the use of circuit diagram and waveforms, explain the working of Half wave rectifier with capacitor filter.	8	L2	CO1
	c.	Mention advantages of –ve feedback.	4	L1	CO1
		OR			
Q.2	a.	List out and explain the various types of amplifiers.	8	L1	CO1
	b.	With neat diagram, explain the concept of negative feedback amplifier.	7	L2	CO1
	c.	Write a note on Multistage amplifiers.	5	L1	CO1
		Module – 2			
Q.3	a.	Explain the working of RC – ladder network oscillator.	6	L2	CO2
	b.	Define Multivibrators. Explain the working of single stage, astable multivibrator with diagram.	8	L1	CO2
	c.	Explain its working of Weinbridge Oscillator with diagram.	6	L2	CO2
		OR			
Q.4	a.	Define the following terms with respect to the Op_Amp : i) CMRR ii) Slew rate iii) Supply voltage rejection ratio iv) Input offset voltage v) Input offset current.	10	L1	CO2
	b.	Explain how Op_Amp can be used as i) Voltage follower ii) Integrator.	10	L2	CO2
		Module – 3			
Q.5	a.	Convert i) $(3568)_{10} = (?)_2$ ii) $(3FD)_{16} = (?)_2$ iii) $(110111)_2 = (?)_{10}$ iv) $(1234)_{10} = (?)_8$ v) $(5678)_{10} = (?)_{16}$.	10	L2	CO3
	b.	Write any four Boolean theorems and Identities.	10	L1	CO3
		OR			
Q.6	a.	Simplify the following Boolean functions : i) $Y = A\overline{B} + AB$ ii) $F = B[(A + \overline{B})(B + C)]$ iii) $Z = B(A + C) + C$.	8	L3	CO3

	b.	Explain Half adder circuit with truth table, Realize the circuit for sum and carry using basic gates.	8	L2	CO3
	c.	Write the Symbol and Truth Table of AND and OR – Gate.	4	L1	CO3
		Module – 4			
Q.7	a.	Define Embedded system and explain the classification of Embedded system based on Complexity and Deterministic behavior.	10	L2	CO4
	b.	Compare Embedded system and General computing system.	6	L1	CO4
	c.	List out the major applications areas of Embedded system.	4	L1	CO4
		OR			
Q.8	a.	With the use of diagram, explain the core of an Embedded system.	8	L2	CO4
	b.	Compare RISC and CISC.	6	L1	CO4
	c.	Write a short notes on Sensors and 7 – segment LED displays.	6	L2	CO4
		Module – 5			
Q.9	a.	With the help of block diagram, explain the basic Communication system.	10	L2	CO5
	b.	Define Noise and explain the various kinds of noises.	10	L2	CO5
		OR			
Q.10	a.	Define Multiplexing and explain types of Communication systems.	8	L2	CO5
	b.	Classify and explain the Multiple Access Techniques.	8	L2	CO5
	c.	Mention the Need for Modulation.	4	L1	CO5

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CBCS SCHEME

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BETCK205H/BETCKH205

Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Introduction to Internet of Things (IOT)

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Classify the network types based on physical topologies and connection types with schematic diagram.	10	L2	CO1
	b.	With a neat diagram, explain the interdependency technology for IOT planes.	10	L2	CO1
		OR			
Q.2	a.	With neat diagram, explain the network communication between two hosts following OSI model.	10	L2	CO1
	b.	Explain the interdependencies and reach of IoT over various application domains and networking paradigms.	10	L2	CO1
		Module – 2			
Q.3	a.	Outline the basic differences between transducers, sensors and actuators.	6	L2	CO2
	b.	Explain the major factors influence the choice of sensors in IoT based sensing applications.	8	L2	CO2
	c.	Define Sensor and explain the characteristics of sensor.	6	L1	CO1
		OR			
Q.4	a.	Classify the sensor based on : i) Power requirements ii) Sensor output iii) Power to be measured.	10	L2	CO2
	b.	Classify Sensing types on the nature of the environment and the physical sensors.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain IoT device design and selection considerations.	10	L2	CO2
	b.	What are the parameters considered for off loading the data and identify typical data offload locations available in context of IoT.	10	L2	CO2
		OR			
Q.6	a.	Explain event detection using onsite , offsite remote processing topology and collaborative processing technology.	10	L2	CO2
	b.	Classify the data based on how they can be accessed and stored and the importance of processing of IoT.	10	L2	CO2

		Module – 4			
Q.7	**a.**	Explain the classification of virtualization based on the requirements of the user.	**6**	**L2**	**CO2**
	b.	Explain different types of cloud model.	**10**	**L2**	**CO1**
	c.	What is SLA and mention its metrics.	**4**	**L2**	**CO2**
		OR			
Q.8	**a.**	What are the advantages of virtualization?	**10**	**L2**	**CO1**
	b.	Explain different types of cloud simulators with its features.	**10**	**L2**	**CO1**
		Module – 5			
Q.9	**a.**	Explain the different components of health care IoT.	**10**	**L2**	**CO1**
	b.	Explain the architecture and advantages of vehicular IoT.	**10**	**L2**	**CO2**
		OR			
Q.10	**a.**	What is Machine Learning? What are the advantages and challenges of Machine Learning?	**10**	**L2**	**CO2**
	b.	What are the advantages and risk of health care IoT?	**10**	**L2**	**CO2**

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BPWSK106/206/22BD26

USN | | | | | | | | | | |

Question Paper Version : A

First/Second Semester B.E./B.Tech./B.Design Degree Examination, June/July 20

Professional Writing Skills in English

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

Choose the part of the sentence that has an error :

1. If I had known (a) this yesterday (b) I will have helped him (c) no error (d)

2. Having received your letter (a) this morning, we was writing (b) to thank you for the same (c) no error (d)

3. A large number of peoples (a) have gathered (b) to greek the leader (c) no error (d)

4. Driving for five hundred kilometers in a day (a) are a tiring proposition (b) no error (c)

Directions : Fill in the blanks with suitable phrasal verbs :

5. His arrogance __________ his ruin.
   a) brought in
   b) brought up
   c) brought about
   d) none of these

6. Henry __________ the magazine quickly.
   a) Looked through
   b) Looked up
   c) Looked in
   d) None of these

Directions : Choose a suitable verb to complete the sentence :

7. One of our employees __________ retiring today.
   a) are
   b) is
   c) were
   d) none of these

8. Either the teacher or the student _____ to be blamed for his performance in the final exam.
   a) are
   b) is
   c) were
   d) none of these

Directions : Fill in the blanks with suitable tenses :

9. Suddenly she gave a loud scream and _____ to the ground.
   a) had fallen
   b) has fallen
   c) fell
   d) none of these

10. The room _____ but the police failed to find anything suspicious.
   a) Searched
   b) was searched
   c) had searched
   d) none of these

Directions : Do as directed :

11. Okay, see you _____ the concert.
   a) at
   b) in
   c) for
   d) none of these

12. The children were _____ at having been informed about the trip.
   a) thrilling
   b) thrills
   c) thrilled
   d) none of these

13. _____ you ever been to Kashmir?
   a) Have
   b) Did
   c) Had
   d) None of these

14. Don't narrate _____ stories, they scare me.
   a) ghastly
   b) ghostly
   c) both 'a' and 'b'
   d) none of these

15. That _____ be true. He wouldn't do something like that.
   a) wouldn't
   b) shouldn't
   c) can't
   d) none of these

Directions : Rearrange the sentence :

16. defined as a place (a) where man is passive (b) and the rest of the nature is active (c) a sanctuary may be (d)
   a) a, b, c, d
   b) d, c, a, b
   c) b, c, d, a
   d) d, a, b, c

17. are simply at a loss (a) of 500 and 1000 rupee notes (b) all the corrupt politicians and their cronics (c) after the demonetization (d)
   a) c, a, d, b
   b) b, a, c, d
   c) d, c, b, a
   d) b, c, a, d

Directions : Change the voice of the following sentences :

18. You need to clean your shoes properly.
a) Your shoes are needed to clean properly.
b) You are needed to clean your shoes properly
c) Your shoes need to be cleaned properly
d) Your shoes are needed by you to clean properly

19. James watt discovered the energy of steam.
a) The energy of steam discovered James watt
b) The energy of steam was discovered by James watt.
c) James watt discovering the energy of steam
d) James watt had been discovered energy by the steam

Directions : Convert the following sentences from Direct to Indirect speech :

20. "I am sorry", he said.
a) He apologized that he was sorry
b) He cried that he was to be sorry
c) He demanded that he was sorry
d) All of these

Directions : Do as directed :

21. A sentence that introduces the topic or the main idea to the readers is called.
a) Topic sentence
b) First sentence
c) Both 'a' and 'b'
d) None of these

22. A paragraph which is written after analyzing a situation is called,
a) Descriptive paragraph
b) Analytical paragraph
c) Illustrative paragraph
d) narrative paragraph

23. The important parts of an essay are :
a) Introduction
b) Body
c) Conclusion
d) All of these

24. ____________ is a gist of any passage written in as few words as possible.
a) Essay writing
b) Precis writing
c) Analytical writing
d) None of these

25. Which among the following is not a feature of reports?
a) Focuses on facts and data
b) Is written for a specific purpose
c) Includes irrelevant information
d) Is structured in an organized way

26. Reports which are submitted at regular intervals is called,
a) Routine report
b) Periodic report
c) Both 'a' and 'b'
d) None of these

27. A technical report establishes a,
a) illogical conclusion
b) logical conclusion
c) personal prejudice
d) misplaced learning

28. ___________ is drafted in response to an advertisement or demand.
a) Solicited proposal
b) Unsolicited proposal
c) Both 'a' and 'b'
d) None of these

29. Childhood is a time when there are ________ responsibilities to make life difficult. If a child ________good parents, he is fed, looked _______ and loved.
a) many, had, up
b) few, has, after
c) little, have, at
d) all of these

30. Listening is a vital skill which helps in enhancing our learning.
a) True
b) False

31. Which among the following are barriers to listening?
a) Forged attention
b) Poor interpersonal relations
c) Premature evaluation
d) All of these

32. Which among the following should not be implemented for effective listening?
a) Having an open mind
b) Not being prejudiced
c) Employing critical thinking
d) Asking irrelevant questions

33. A business letter must be,
a) written in proper format
b) short and concise
c) polite in tone
d) All of these

34. The date on a business letter should appear after the salutation.
a) True
b) False

35. This format of the letter has the heading, dateline, complementary closure and signature right aligned.
a) Block format
b) Informal format
c) Modified block format
d) None of these

36. Which among the following is not to be mentioned in a resume?
a) Educational qualification
b) Work experience
c) Strengths
d) Weaknesses

37. The _______format of resume lists your work history with dates, with your most recent employer and job title listed first.
a) Historical
b) Functional
c) Chronological
d) All of these

38. BCC in an email refers to :
a) British council careers
b) Blind carbon copy
c) Booked carbon copy
d) None of these

39. The cover letter is written,
a) To introduce oneself as the suitable candidate for the job.
b) To give biographical details of the candidate.
c) To try for the job
d) To let the employer know of our writing skills

40. ____________ communication is a direct, written or oral communication that occurs between two or more persons
a) Interpersonal b) Extra-personal c) Intrapersonal d) None of these

41. In a group discussion one must communicate with,
a) Hostility
b) Arrogance
c) Long sentences
d) Knowledge

42. Which among the following should not be followed while appearing for an interview?
a) Arriving late to the venue
b) Knowing your resume
c) Being formally dressed
d) Knowledge of the company

43. When giving a presentation in front of an audience you should do all of the following except :
a) Speak loud and clear
b) Provide handouts if needed
c) Dress professionally
d) Lack of eye contact with the audience

44. A group discussion checks and monitors,
a) Leadership skills
b) Listening ability
c) Confidence
d) All of these

45. Communication helps to make accurate decisions and influence organizational performance positively.
a) True
b) False

Directions : Fill in the Blanks :

46. What actually scared us ______ the fact that there was no one around to help us.
a) were
b) was
c) with
d) all of these

47. He was the man ________ they thought was dead.
a) of b) who c) whom d) all of these

48. The flowers smell __________.
a) Sweet b) Sweetly c) Sweeter d) Sweetest

49. The Guptas are travelling _________ plane.
a) at b) in c) on d) by

50. Which of the following sentence does not contain misplaced modifier?
a) Tired after a long day at work, Rita napped with her cat.
b) Happy that school was over, the afternoon was quite relaxing
c) We glued together the vase we broke quietly
d) My uncle had to see a doctor with indigestion

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CBCS SCHEME

BKBKK107/207

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Question Paper Version : C

First/Second Semester B.E. /B.Tech. Degree Examination, June/July 2024

Balake Kannada

(COMMON TO ALL BRANCHES)

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

Translate the following Kannada words into English.

1 MagaLu
a) Son b) Mother c) Daughter d) Sister

2 Kappu BaNNa
a) Black color b) Red color c) White color d) Green color

3 Obba Vidyarthi
a) One Teacher b) One Servant c) One Brother d) One Student.

Translate the following English words into Kannada.

4 Book ______
a) Buk b) Pustaka c) Byag d) Pencil

5 Her House
a) IvaLa Mane b) AvaLa Mane c) Avana Mane d) Adara Mane

6 Big Tree
a) Chikka Mara b) doDDa Mara c) AgaLa Mara d) SaNNa Mara

Match the following using the table given below :

a)	Green	i)	Huduga
b)	Fruit	ii)	Sihi
c)	Boy	iii)	HaNNu
d)	Son	iv)	Hasiru
e)	Sweet	v)	Maga

7 Green _____
a) = i b) = ii c) = iii d) = iv

8 Fruit _____
a) = i b) = ii c) = iii d) = v

9 Boy _____
a) = i b) = ii c) = iii d) = iv

10 Son _____
a) = i b) = ii c) = iv d) = v

11 Sweet _____
a) = i b) = ii c) = iii d) = v

Write appropriate words for the following :

12 Where _____
a) ELLi b) Yaake c) Yaaru d) Estu

13 Teacher _____
a) GeLathi b) Shikshaka c) Vidyarti d) Huduga

14 Girl _____
a) Huduga b) Mitra c) Hudugi d) Snehita

15 Bitter _____
a) Sihi b) Uppu c) Kahi d) Khara

16 Library _____
a) Shale b) Vidyakaya c) AngaDi d) Granthalaya

Transform the following Kannada words as per the given model (example) :

Example : angaDi – angaDiyalli

17 Kacheri _____
a) Maneyalli b) Kacheriyalli c) Shaleyalli d) Halliyalli

18 Batte _____
a) Batteyalli b) Angiyalli c) BaNNadalli d) Batteyinda

19 How would you write "his Mother" in Kannada?
a) Avana Tande b) Avana Tamma c) Avana Taayi d) Avana Tangi

20 How would you write "This is My College" in Kannada?
a) Adu Nmma Vidyalya b) Idu Nanna Vidyalaya
c) Adu Avara Vidyalaya d) Idu Ivana Vidyalaya

21 How would you write "Who is She?" in Kannada?
a) AvaLu Yaaru? b) Avanu Yaaru? c) Idu Yaaru d) Ivaru Yaaru?

22 What is the meaning of "Don't – go"?
a) Bara Beda b) Hoga Beda c) Tinna Beda d) Kudiya Beda

23 What is the meaning of "My Book" in Kannada?
a) Nanna Mitra b) Nanna Pustaka c) Nanna Angi d) Nama Mane

24 What is the meaning of "Flower" in Kannada?
a) HaNNu b) Hoovu c) Ele d) Mane

25 Which one of the following means the color "Red" in Kannada?
a) Kempu b) BiLi c) NeeLi d) HaLadi

Write the English Word for the following :

26 Mane _____
a) Hotel b) House c) Shop d) Street

27 Mara _____
a) Tree b) Leaf c) Flower d) Fruit

28 Maga _____
a) Father b) Mother c) Uncle d) Son

29 Amma _____
a) Younger Brother b) Elder Brother c) Mother d) Elder Sister

30 HaNNu _____
a) Fruit b) Flower c) Seed d) Plant

Match the following using the Table given below?

a)	Student	i)	Vidyalaya
b)	Younger brother	ii)	Vidyarthi
c)	Teacher	iii)	Vaidya
d)	Doctor	iv)	Tamma
e)	College	v)	Shikshaka

31 Student _____
a) = i b) = ii c) = iii d) = iv

32 Younger Brother _____
a) = i b) = ii c) = iii d) = iv

33 Teacher _____
a) = i b) = ii c) = iv d) = v

34 Doctor _____
a) = i b) = ii c) = iii d) = iv

35 College _____
a) = i b) = ii c) = iii d) = iv

Translate the following English sentence into Kannada sentence.

36 Who are you?
a) Naanu Yaaru b) avaLu Yaaru c) niinu Yaaru d) adu Yaaru

37 What is your name?
a) Ninna Hesaru Enu? b) Nanna Hesaru Enu
c) Idara Hesaru Enu? d) AvaLa Hesaru Enu

38 Where is your House?
a) Avana Mane Elli Ide? b) Ninna Mane Elli Ide?
c) AvaLa Mane Elli Ide? d) Adara Mane Elli Ide?

39 Who is he?
a) Adu Yaaru? b) Avanu Yaaru? c) Idu Yaaru? d) Idu Elli?

40 Where is your younger sister?
a) Ninna Tamma Elli Iddale? b) Ninna Akka Elli Iddale?
c) Ninna Tangi Elli Iddale? d) Ninna Anna Elli Iddale?

Fill in the blank for the given English words into Kannada meaning.

41 Long _____
a) Chikka b) Dappa c) agala d) Udda

42 New _____
a) gaTTi b) Hosa c) HaLeya d) Taaja

43 Hard _____
a) SaNNA b) gaTTi c) hagura d) dubaari

44 Salty _____
a) Uppu b) huLi c) Khaara d) Sihi

45 Dirty _____
a) Subhra b) BiLi c) ONa d) galiiju

Write the Kannada vocabulary for the following English words.

46 Who _____
a) Enu b) Eke c) Yaaru d) Elli

47 This _____
a) Idu b) Adu c) Avu d) Ivu

48 She _____
a) avanu b) avaLu c) avaru d) Ivaru

49 His _____
a) avariage b) avaLu c) avana d) Nanage

50 When _____
a) Yaaru b) Hege c) Estu d) Yavaga

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USN | | | | | | | | | |

BKSKK107/207
Question Paper Version : D

First/Second Semester B.E/B.Tech. Degree Examination, June/July 2024

ಸಾಂಸ್ಕೃತಿಕ ಕನ್ನಡ

(COMMON TO ALL BRANCHES)

Time: 1 hrs.] [Max. Marks: 50

ಸೂಚನೆಗಳು

1. ಎಲ್ಲ ೫೦ ಪ್ರಶ್ನೆಗಳಿಗೂ ಉತ್ತರಿಸಿರಿ. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೆ ಒಂದು ಅಂಕ.
2. ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಯು.ಎಸ್.ಎನ್ ಸಂಖ್ಯೆ ಹಾಗೂ ಪಶ್ನೆ ಪತ್ರಿಕೆಯ ಶ್ರೇಣಿಯನ್ನು ಅಂದರೆ A, B, C ಅಥವಾ D ಯನ್ನು ತಪ್ಪಿಲ್ಲದಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಗುರುತಿಸುವುದು ಅಭ್ಯರ್ಥಿಯ ಜವಾಬ್ದಾರಿಯಾಗಿರುತ್ತದೆ.
3. ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ನಿಗದಿಪಡಿಸಿರುವ ಸ್ಥಳದಲ್ಲಿ ಭರ್ತಿಮಾಡದೆ ಹಾಗೆಯೇ ಬಿಟ್ಟಲ್ಲಿ ಅಥವಾ ಭರ್ತಿಮಾಡಿದ ಮಾಹಿತಿಯಲ್ಲಿ ಯಾವುದೇ ವ್ಯತ್ಯಾಸವಿದ್ದಲ್ಲಿ ಅಂತಹ ಉತ್ತರ ಪತ್ರಿಕೆಗಳನ್ನು ರದ್ದು ಪಡಿಸಲಾಗುವುದು.
4. ಕೇವಲ ಒಂದು ಉತ್ತರವನ್ನು ಮಾತ್ರ ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ಗುರುತಿಸತಕ್ಕದ್ದು. ಒಂದೆ ಪ್ರಶ್ನೆಗೆ ಎರಡು ಉತ್ತರವನ್ನು ಗುರುತಿಸುವುದು ಅಮಾನ್ಯ.
5. ಎಲ್ಲಾ ಉತ್ತರಗಳನ್ನು ನಿಮಗೆ ಒದಗಿಸಲಾದ ಓ.ಎಂ.ಆರ್ ಉತ್ತರ ಪತ್ರಿಕೆಯ ಹಾಳೆಯ ಮೇಲೆ ಕಪ್ಪು ಅಥವಾ ನೀಲಿ ಶಾಹಿಯ ಬಾಲ್‌ಪಾಯಿಂಟ್ ಪೆನ್ನಿನಿಂದ ಗುರುತು ಮಾಡಬೇಕು.

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1. ಎಲ್ಲರೊಳಗೆ ನಾವು ಏನಾಗಬೇರಂದು ಡ.ವಿ.ಜಿ ತಿಳಿಸಿದ್ದಾರೆ?

   a) ಬೇರೆಯಾಗಬೇಕು b) ಒಂದಾಗಬೇಕು
   c) ದೂರವಾಗಬೇಕು d) ಮಾತಾಡಬೇಕು.

2. ಕಬ್ಬಿಗರ ಕಾವ್ಯ ಇದರ ಕತೃ ಯಾರು?

   a) ಪಂಪ b) ಆಂಡಯ್ಯ c) ಬಸವಣ್ಣ d) ಹಂಪನಾ.

3. ಹುಲಿಗಂಜಿ ಹುತ್ತವ ಹೊಕ್ಕಡೆ ------ ತಿಂಬುದ ಮಾಬುದೆ?

   a) ಸರ್ಪ b) ಆನೆ c) ಸಿಂಹ d) ಚಿರತೆ.

4. ಪುರಂದರ ದಾಸರ ವಚನಗಳ ಅಂಕಿತನಾಮ ಯಾವುದು?

   a) ರಾಮನಾಥ b) ವಿಠಲ
   c) ಗುಹೇಶ್ವರ d) ಪುರಂದರ ವಿಠಲ.

5. ತಲ್ಲಣಿಸಿದಿರು ಕಂಡ್ಯ ತಾಳು ಮನವೇ ಕೀರ್ತನೆ ಕೀರ್ತನಕಾರರು ಯಾರು?

a) ಪುರಂದರದಾಸರು b) ಕನಕದಾಸರು

c) ಶಿವಯೋಗಿ d) ಶಿಶುನಾಳ ಶರೀಫರು.

6. ಕುಂಬಾರಕಿ ಆರು ಕಾಸಿಗೊಂದು ಏನನ್ನು ಮಾರುತ್ತಾಳೆ?

a) ಕುಡಕಿ b) ಮಡಿಕೆ

c) ಗುಡಾಣ d) ಗಡಿಗೆ.

7. ಕನ್ನಡ ಭಾಷೆಯ ಲಿಪಿಯನ್ನು ಲಿಪಿಗಳ ರಾಣಿ ಎಂದು ಕರೆದವರು ಯಾರು?

a) ಸರೋಜಿನಿ ನಾಯ್ಡು b) ಮದರ ತರೆಸಾ

c) ವಿನೋಬಾ ಭಾವೆ d) ಒನಕೆ ಓಬವ್ವ.

8. ಮೋಹಿನಿಗೆ ಮರುಳಾದವರು ಯಾರು?

a) ಮಾನವನು b) ಮಹಿಳೆಯರು

c) ಮೂರ್ಖದಾನವರ d) ಯಾರು ಇಲ್ಲ.

9. ಹೊಸಬಾಳಿನ ಗೀತೆ ಕವನದ ಕವಿ ಯಾರು?

a) ಕುವೆಂಪು b) ಬೇಂದ್ರೆ c) ಶಿವರುದ್ರಪ್ಪ d) ಡಿ.ವಿ.ಜಿ.

10. ಅವರವರ ಭಕುತಿಗೆ ಅವರವರ ಭಾವಕ್ಕೆ ಎಂದು ಹಾಡಿದವರು ಯಾರು?

a) ಶಿಶುನಾಳ ಶರೀಫ b) ಕುವೆಂಪು

c) ಡಿ.ವಿ.ಜಿ d) ಬಾಲಲೀಲಾ ಮಹಾಂತ ಶಿವಯೊಗಿ.

11. ಅಲ್ಲಮಪ್ರಭು ಹೆಸರುವಾಸಿಯಾಗಿದ್ದು ------- ಗಳಿಗೆ.

a) ಜನಪದ b) ಕೀರ್ತನೆ c) ವಚನ d) ತತ್ವಪದ.

12. ಅಕ್ಕಮಹಾದೇವಿಯವರ ಅಂಕಿತನಾಮ ಯಾವುದು?

a) ಚೆನ್ನಮಲ್ಲಿಕಾರ್ಜುನ b) ಅಲ್ಲಮಪ್ರಭು

c) ಕೂಡಲಸಂಗಮದೇವ d) ಗುಹೇಶ್ವರ.

13. ಕುಪ್ಪಳ್ಳಿ ವೆಂಕಟಪ್ಪ ಪುಟ್ಟಪ್ಪ ಇವರ ಕಾವ್ಯನಾಮ ತಿಳಿಸಿ.

a) ದ.ರಾ.ಬೇಂದ್ರೆ b) ಕುವೆಂಪು c) ಡಿ.ವಿ.ಜಿ d) ತ.ರಾ.ಸು.

14. ಕರ್ನಾಟಕ ಗತವೈಭವ ಗ್ರಂಥದ ಲೇಖಕರು ಯಾರು?

a) ಕುವೆಂಪು
b) ಮಾಸ್ತಿ
c) ಜಿ.ಎಸ್.ಎಸ್
d) ಆಲೂರು ವೆಂಕಟರಾಯರು

15. 'ಅಟ್ಟಕೇರಿಸು' ಈ ನುಡಿಗಟ್ಟಿನ ವಿಶೇಷಾರ್ಥ--------.

a) ಅಣರೆಸು
b) ತೆಗಳು
c) ಹೊಗಳು
d) ನಗಿಸು.

16. ಸಂಗೀತಪುರವು ಈ ಹಿಂದೆ ಯಾರ ಊರಾಗಿತ್ತು?

a) ಬೌದ್ಧರ
b) ತಮಿಳರ
c) ಪಾರ್ಸಿಗಳ
d) ಜೈನರ.

17. 1955ರಲ್ಲಿ ರಾಯಚೂರಿನಲ್ಲಿ ನಡೆದ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಪರಿಷತ್ತಿನ ಸಮ್ಮೇಳನದ ಅಧ್ಯಕ್ಷರು ಆಗಿದ್ದವರು ಯಾರು?

a) ಶ್ರೀರಂಗರು
b) ದಾ.ರಾ.ಬೇಂದ್ರೆ
c) ಚಂದ್ರಶೇಖರ ಕಂಬಾರ
d) ಡಿ.ವಿ.ಜಿ.

18. ಅಲ್ಲಮಪ್ರಭುಗಳ ವಚನದ ಕಾವ್ಯನಾಮ ಯಾವುದು?

a) ಗುಹೇಶ್ವರ
b) ಸಂಗಮದೇವ
c) ಚೆನ್ನಮಲ್ಲಿಕಾರ್ಜುನ
d) ಶಿವೇಶ್ವರ.

19. ಕುರುಡು ಕಾಂಚಾಣವನ್ನು ಯಾವ ಕವನ ಸಂಕಲನದಿಂದ ಆಯ್ದುಕೊಳ್ಳಲಾಗಿದೆ.

a) ನಾಕುತಂತಿ
b) ಮರಳಿ ಮಣ್ಣಿಗೆ
c) ಕಲ್ಲು ಕರಗುವ ಸಮಯ
d) ನಾದಲೀಲೆ.

20. "ನಾಡ ಗೀತೆ"ಯನ್ನು ರಚಿಸಿರುವ ಕವಿ ಯಾರು?

a) ಬೇಂದ್ರೆ
b) ಕುವೆಂಪು
c) ರಾಜರತ್ನಂ
d) ಪಿ. ಲಂಕೇಶ್.

21. ಮೈಸೂರು ರಾಜ್ಯಕ್ಕೆ ಕರ್ನಾಟಕ ಎಂದು ನಾಮಕರಣ ಮಾಡಿದ ವರ್ಷ -------.

a) 1973
b) 1964
c) 1955
d) 1947.

22. ಸರ್. ಎಂ. ವಿಶ್ವೇಶ್ವರಯ್ಯನವರು ಪಡೆದಿರುವ ದೇಶದ ಅತ್ಯತ್ತಮ ಪ್ರಶಸ್ತಿ ಯಾವುದು?

a) ಪದ್ಮಶ್ರೀ
b) ಪದ್ಮಭೂಷಣ
c) ಪದ್ಮವಿಭೂಷಣ
d) ಭಾರತ ರತ್ನ.

23. ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಆಡಳಿತ ಭಾಷೆ ಯಾವುದು?

a) ಕನ್ನಡ b) ತಮಿಳು c) ತೆಲಗು d) ಹಿಂದಿ.

24. ಕರ್ನಾಟಕದ ರಾಜಧಾನಿ ಯಾವುದು?

a) ಮೈಸೂರು b) ಬೆಂಗಳೂರು

c) ಧಾರವಾಡ d) ಬೆಳಗಾವಿ.

25. ಸಂತ ಶಿಶುನಾಳ ಶರೀಫರು ಹೆಸರುವಾಸಿಯಾಗಿದ್ದುದು ----- ಗಳಿಗೆ.

a) ಜನಪದ b) ಕೀರ್ತನೆ c) ವಚನ d) ತತ್ವಪದ.

26. ಬಟ್ಟೆ ಮೇಲಿನ ಮುದ್ರಣ ಕಲೆಗೆ ಯಾವ ದೇಶವು ಮೂಲ ನೆಲೆಯಾಗಿದೆ.

a) ಇಂಗ್ಲೇಂಡ್ b) ಪ್ರಾನ್ಸ c) ಭಾರತ d) ಅಮೇರಿಕಾ.

27. ಪ್ರಹ್ಲಾದನ ತಾಯಿಯ ಹೆಸರೇನು?

a) ರುದ್ರಮ್ಮ b) ಕಾಳಮ್ಮ c) ರುಕ್ಮೀಣಿ d) ತಾಯಮ್ಮ.

28. ಸಂವಿಧಾನದ ಯಾವ ಅನುಚ್ಛೇದದ ಅನುಸಾರ ರಾಜ್ಯಗಳಲ್ಲಿ ಬಳಕೆಯಾಗುವ ಭಾಷೆಗಳನ್ನೆ ಆಡಳಿತ ಭಾಷೆಯೆಂದು ತೀರ್ಮಾನಿಸಲಾಗಿದೆ.

a) 343 b) 443 c) 543 d) 643.

29. ಮೇಗಾನೆ ಗ್ರಾಮದಲ್ಲಿ ವಾಸವಿರುವ ಬುಡಕಟ್ಟು ಜನಾಂಗದ ಹೆಸರೇನು?

a) ಕುಣಬಿ b) ನಾಗ c) ಭದ್ರ d) ಮಲಯ.

30. "ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿ" ಲೇಖನದ ಕರ್ತೃ ಯಾರು?

a) ಕುವೆಂಪು b) ಹಂಪ ನಾಗರಾಜಯ್ಯ

c) ಗೊವಿಂದ ಪೈ d) ಬೇಂದ್ರೆ.

31. ಕಾಲಿಗೆ ಬಿದ್ದವರ ಯಾವುದು ತುಳಿಯುತ್ತಲಿತ್ತು?

a) ಹಣ b) ಕಾಂಚಾನ c) ಬಂಗಾರ d) ಕುರುಡ ಕಾಂಚಾಣ.

32. ಭಾಷೆಗೆ ಎಷ್ಟು ಪ್ರಮುಖ ಕೌಶಲ್ಯಗಳು ಇರುತ್ತವೆ?

a) 10 b) 20 c) 08 d) 04

33. ಆಡಳಿತ ಭಾಷೆ ಯಾವಾಗಲೂ ------ ಇರಬೇಕು.

a) ಕಷ್ಟಕರವಾಗಿ b) ಅರ್ಥವಾಗದಂತೆ

c) ಸರಳ ಮತ್ತು ಸ್ಪಷ್ಟವಾಗಿ d) ಗೊಂದಲದಿಂದ.

34. ಸರ್ಕಾರಿ ಆಸ್ಪತ್ರೆಯಲ್ಲಿ ಮಾಸ್ತರಿಗೆ ಸಹಾಯ ಮಾಡಿದ ದಾದಿ ಯಾರು?

a) ಚಾಂದಿನಿ b) ರಾಧ c)ಫಾತಿಮಾ d) ರುಕ್ಮಿಣಿ.

35. ------- ಭಾರತದ ಕೆಲವು ನೇಕಾರರು ಚೆಂದಿ ಬಟ್ಟೆಯ ಕಂಬಳಿಗಳನ್ನು ತಮ್ಮ ಮಗ್ಗಗಳಲ್ಲಿ ನೇಯುವರು.

a) ಉತ್ತರ b) ಪೂರ್ವ c) ಪಶ್ಚಮ d) ದಕ್ಷಿಣ.

36. ಎಲ್ಲರನು ಸಲಹುವವನು ಯಾರು?

a) ಪುರಂದರ ವಿಠಲ b) ಕಾಗಿನೆಲೆ ಆದಿಕೇಶವ

c) ಮಲ್ಲಿಕಾರ್ಜುನ d) ಕೂಡಲಸಂಗಮದೇವ.

37. ಶ್ರೀಮಂತರು ಯಾರ ಕಣ್ಣಿನ ಕವಡೆಯನ್ನು ಜೋಮಾಲೆ ಮಾಡಿಕೊಂಡು ಹಾಕಿಕೊಳ್ಳುವರು?

a) ಬಾಣಂತಿ b) ಸಣ್ಣ ಕಂದಮ್ಮ c) ಮುದುಕರು d) ಹೆಂಗಸರು.

38. ಯಾವ ಜನಾಂಗದ ಚಿತ್ರಿಕರಣ ಲೇಖಕರ ಮನದಲ್ಲಿತ್ತು?

a) ಗೊಂಡ b) ತೊಡವ c) ನಾಗ d) ಅಲೆಮಾರಿ.

39. ಕುಂಬಾರಕಿ ಯಾವುದರ ಮೇಲೆ ಮುಗಿಯನ್ನು ಇಡುವಳು?

a) ಕಲ್ಲು b) ಗಡಿಗೆ c) ವಸುಧೆ d) ಕಟ್ಟೆ.

40. ವಿಷಸರ್ಪಗಳಿಗೆ ಯಾವುದರ ಗೂಡು ಹುತ್ತವಾಗುವುದು?

a) ಗೆದ್ದಲಿರುವೆ b) ಉಡ c) ಇಲಿ d) ಗೀಜಗ.

41. ತಾಳಗುಪ್ಪ ಗಿರಿಜನ ಶ್ರಮ ಶಾಲೆಯ ಮಾಸ್ತರರು ಯಾರು?

a) ಸಮಪಾಲುಗೋಪಣ್ಣ b) ಪ್ರಹ್ಲಾದ c) ಹುಚ್ಚಪ್ಪ d) ಕರೀಂಖಾನ

42. ಗೋಪಣ್ಣ ಮಾಸ್ತರು ಕಣಗಲಿ ಗಿಡದಲ್ಲಿ ಏನು ನೋಡಿದರು?

a) ಹೂ b) ಹಣ್ಣು c) ಬಟ್ಟೆ d) ಜನಿವಾರ

43. ಹಾದುವಳ್ಳಿಗೆ ಹಿಂದೆ ------ಹೆಸರಿತ್ತು.

a) ಸಂಗೀತಪುರ b) ಭಟ್ಕಳ c) ಸಾಗರ d) ಕಾರವಾರ

44. ಹೊಸಚಿಗುರು ----- ಕೂಡಿರಲು ಮರಸೊಬಗು

a) ಹೊಸ ಎಲೆ b) ಹೊಸ ಹಸಿರು c) ಹೊಸಕಾಂಡ d) ಹಳಬೇರು

45. "ಪರಿಸರ, ಪರಂಪರೆ ಹಾಗೂ ಪ್ರತ್ಯಕ್ಷ ಜೀವನದ ಅನೇಕ ಸಂಸ್ಕಾರಗಳ ಮೂಲಕ ಮನುಷ್ಯನ ಅಂತರಂಗ ಪಡೆಯುವ ಪರಿಪಕ್ವತೆ" ಯನ್ನು ------ ಎನ್ನಬಹುದು.

a) ಕಲೆ b) ಸಂಸ್ಕಾರ c) ಸಂಸ್ಕೃತಿ d) ಕೆಂಪು

46. ಕುಣಬಿ ಜನರ ಮುಖ್ಯವಾದ ಹಬ್ಬ ಯಾವುದು?

a) ಯುಗಾದಿ b) ದಸರಾ c) ಹೋಳಿ ಹುಣ್ಣಿಮೆ d) ದೀಪಾವಳಿ

47. ಬಣ್ಣಗಳನ್ನು ನೀಡುವ ಗಿಡಗಳು ಭಾರತದಲ್ಲಿ ಎಷ್ಟವೆ.

a) 400 b) 300 c) 500 d) 600.

48. ಕರಕುಶಲ ಕಲೆಗಳಿಗೆ ಪೆಟ್ಟು ಬಿದ್ದಿದ್ದು ಯಾವುದರಿಂದ?

a) ಜಾಗತೀಕರಣ b) ಖಾಸಗೀಕರಣ

c) ಕೈಗಾರಿಕರಣ d) ಸೋಂಬೇರಿತನ.

49. ಸತಿ ಪದದ ಅರ್ಥವೇನು?

a) ಹೆಂಡತಿ b) ಪತಿ c) ಮಕ್ಕಳು d) ತಾಯಿ.

50. ವಿದ್ಯಾವರ್ದಕ ಸಂಘ ಎಲ್ಲಿ ಸ್ಥಾಪನೆಯಾಯಿತು?

a) ಬೆಂಗಳೂರು b) ಧಾರವಾಡ

c) ಶಿವಮೊಗ್ಗ d) ಮೈಸೂರು.

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CBCS SCHEME

BSFHK158/BSFHK258/22BD27

USN | | | | | | | | | | |

Question Paper Version : A

First/Second Semester B.E./B.Tech./B.Design Degree Examination, June/July 2024

Scientific Foundations of Health

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. According to WHO, what is health?
   a) Health is a state of complete physical, mental and social well being and not the absence of disease.
   b) Health is not a state of complete physical, mental and not the absence of disease.
   c) Complete physical, mental and social well being and not the presence of disease
   d) None of these

2. Advantages of good health
   a) Reduces confidence
   b) Improves brain health and confidence
   c) Increased stress
   d) Reduces performance

3. What is balanced nutrition?
   a) A healthy nutrition diet provides the body with non essential nutrition.
   b) A healthy nutrition diet provides the body with essential nutrition: fluid, macronutrients such as protein, vitamins, adequate fibre and food energy.
   c) Nutrition is adequate fibre and food energy
   d) None of these

4. What are the examples of positive attitude?
   a) Teasing others
   b) Looking at the glass half full
   c) Looking at the glass half empty
   d) None of these

5. The only disability in life is a _____
   a) Bad attitude
   b) Positive attitude
   c) Commenting on life
   d) Making fun on others

6. What factors influencing Good Health?
   a) State of our environment and genetics
   b) Income and education
   c) Relationship with friends and family
   d) All of these

7. What is the key to having a positive attitude?
   a) Always do your best
   b) Do only what you think you can
   c) Think you cant do anything
   d) Believe in yourself

8. Individual personality is influenced by
   a) Experiences
   b) Environment
   c) Inherited characteristics
   d) All of these

9. Well being also involved reducing the risk of an injury or health issue by
   a) Minimizing hazards in the work place
   b) Using contraceptive when having sex
   c) Avoiding the use of tobacco, alcohol and illegal drug
   d) All of these

10. How does personality affect health?
    a) Failure in handle stress
    b) Failure in activity level
    c) Avoiding bad habits
    d) None of these

11. The source of antioxidant and minerals
    a) Vegetables and fruit
    b) Coke and pizza
    c) Mutton and meat
    d) Baked foods

12. Which of the following is whole grain food?
    a) Brown rice and wild rice
    b) Oat's meal
    c) Ragi ball and Barley malt
    d) All of these

13. Excessive intake of food leads to _____
    a) Obesity
    b) Fit body
    c) Over smartness
    d) Lowers body calorie

14. Which of the following components are major nutrients in our food?
    a) Carbohydrates
    b) Lipids and proteins
    c) Vitamins and Minerals
    d) All of these

15. Egg is a rich source of _____
    a) Proteins
    b) Vitamins
    c) Minerals
    d) None of these

16. Potatoes, beans, pulses and oats are rich in _____
    a) Proteins
    b) Vitamins
    c) Minerals
    d) Carbohydrates

17. Which of the following food items provides dietary fibre?
    a) Pulses
    b) Whole grain
    c) fruits and vegetables
    d) Pizza

18. Which of the following food components are rich in fat?
    a) Rice and Maize
    b) Milk, egg and beans
    c) Butter, cheese and oil
    d) None of these

19. Which of the following vitamin helps in blood clotting
a) Vitamin – A
b) Vitamin – C
c) Vitamin – D
d) Vitamin – K

20. Guava, Lemon, Orange and Tomato are rich in
a) Vitamin – A
b) Vitamin – B
c) Vitamin – C
d) Vitamin – D

21. How many minutes should an average person walk a day?
a) 30 minutes
b) 40 minutes
c) 20 minutes
d) 60 minutes

22. What is the recommended daily water intake?
a) 0.5 litre
b) 1 litre
c) 2 litres
d) 4 litres

23. Oral communication ensures _____ and _____
a) Fluency and speed
b) Adequate response and immediate response
c) Speedy interaction and speed response
d) Fast and attention

24. The primary goal of communication is to
a) To create barriers
b) To create noise
c) To effect a change
d) None of these

25. Body language play a important role in ______
a) Communication
b) Judgement
c) Both A and B
d) None of these

26. Ways to improve the communication skill:
a) Active listening skill
b) Passive listening skill
c) Both A and B
d) None of these

27. Which of the following is not a communication skill?
a) Listening
b) Feedback
c) Conversation
d) Playing game

28. Which of the following is barrier of communication?
a) No interest in conversation
b) Ability to listen
c) Transparency and Trust
d) None of these

29. What is not a basic instincts of Human life?
a) Self perseverance
b) Sexual instinct
c) Social instinct
d) Making wealth and property all time.

30. Which of the following social engineering changes the Health behaviours?
a) Banning the use of certain drugs
b) Providing purified water to people
c) Legalizations can be passed to make environment healthier
d) All of these

31. Factors leading to addiction
a) Environment
b) Genes
c) Both a and b
d) None of these

32. Which of the following is not a type of addiction?
a) Drug
b) Alcohol
c) Behavioural
d) Yoga practicing

33. Symptoms of substance use disorder
a) Impaired control
b) Social problem
c) Having intense usage for the drug
d) All of these

34. Recognizing the addictions
a) Problems at work
b) Physical health issue
c) Changes in behavior
d) All of these

35. Which of the following is a protective factor of addictive people?
a) Good self control
b) Parental monitoring and support
c) Positive relationships
d) All of these

36. Which is an example of health hazard?
a) Cardiovascular disease
b) Cancer
c) Stroke
d) All of these

37. What are the different sources of infection?
a) Patients
b) Health care workers
c) Visitors and Household workers
d) All of these

38. Which one is a type of infective agent?
a) Bacteria
b) Virus
c) Both a and b
d) None of these

39. How to reduce risk for good health?
a) Be a non-smoker
b) Be physically active every day
c) Achieve a healthy weight
d) All of these

40. Which is not the risk factor for addictive people?
a) Aggressive behavior in childhood
b) Lack of parental supervision
c) Good social skills
d) Poor social skills

41. Which is an example for acute health change condition?
a) Heart disease
b) Cancer
c) Diabetes
d) Cold and cough

42. Health is ______
a) Money
b) Wealth
c) Gold
d) Diamond

43. Which of the following are not major health issues?
a) Malnutrition
b) Obesity
c) Anaemia
d) Fever

44. Preventive measures against disease for good health
a) Avoid touching your face
b) Stay home if you are sick
c) Avoid contaminated food and water
d) All of these

45. Who proposed the biopsychosocial model?
a) Freud b) Sontag c) Engel d) None of these

46. Which of the following charters defined health promotion as "the process of enabling people to increase control over and to improve their health"?
a) Charter of United Nations (1945) b) Tokyo Charter (1946)
c) Ottawa Charter (1986) d) None of these

47. HIV is a retrovirus that infects and colonizes cells in the _____
a) Immune system
b) Immune system and central nervous system
c) Endocrine system
d) Immune system and Endcrine system

48. In 2015, the global prevalence of HIV infection was _____
a) 0.2% b) 0.4% c) 0.6% d) 0.8%

49. In H.J. Eysenck's twentieth – century theory of personality, how did he reinterpret the classical phlegmatic temperament?
a) Stable extrovert b) Stable introvert
c) Unstable extrovert d) Unstable introvert

50. In which year WHO did the first express "the right to health" as a fundamental human right?
a) 1946 b) 1952 c) 1987 d) 2000

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CBCS SCHEME

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BPHYS102/202

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Applied Physics for CSE Stream

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. VTU Hand book is permitted.

		Module – 1	M	L	C
Q.1	a.	Explain the construction and working of semiconductor LASER with a neat sketch and energy level diagram.	9	L2	CO1
	b.	Discuss different types of optical fibers based on modes of propagation and RI profile.	6	L2	CO1
	c.	An optical fiber has refractive index of core and cladding of 1.55 and 1.50, respectively. Calculate its numerical aperture and angle of acceptance if it is kept in air.	5	L3	CO5
		OR			
Q.2	a.	Obtain the expression for energy density of radiation in term of Einstein's A and B coefficients.	8	L2	CO1
	b.	Define numerical aperture and derive an expression for numerical aperture of an optical fiber.	7	L2	CO1
	c.	In a diffraction grating experiment the Laser light undergoes first order diffraction at an angle of 19.3°. Find the wavelength of Laser light. Given the grating constant $d = 1.98 \times 10^{-6}$m.	5	L3	CO5
		Module – 2			
Q.3	a.	Setup one dimensional time independent Schrodinger wave equation.	8	L2	CO
	b.	State Heisenberg's uncertainty principle and apply the same to prove the non-existence of free electron inside the nucleus.	7	L2	CO
	c.	An electron is bound in an infinite potential well of width 0.18nm. Find its energy values in the first two allowed energy states.	5	L3	CO2
		OR			
Q.4	a.	Obtain an expression for Eigen function and Eigen energy values for a particle in an infinite potential well of width 'a'.	9	L2	CO2
	b.	What is wave function? Mention the properties of wave function and give its significance.	6	L2	CO2
	c.	Calculate the kinetic energy of a neutron in eV. Given: de –Broglie wave length is 1 Å and mass of neutron, $m_n = 1.674 \times 10^{-27}$Kg.	5	L3	CO2
		Module – 3			
Q.5	a.	Distinguish between classical computing and Quantum computing.	6	L2	CO2
	b.	Explain the CNOT gate and its operation on four different input states.	6	L2	CO2
	c.	Apply Pauli matrices on the state $\|0\rangle$ and $\|1\rangle$.	8	L3	CO2
		OR			
Q.6	a.	Explain the working of T-gate mentioning its matrix representation and truth table.	7	L2	CO2
	b.	Explain Orthogonality and Orthonormality with an example of each.	8	L2	CO2

	c.	A linear operator 'X' operates such that X|0> = |0> and X|1> = i|1>. Find the matrix representation of 'X'.	5	L3	CO2
		Module – 4			
Q.7	a.	Mention the failures of classical free electron theory and explain the assumptions of Quantum free electron theory of metals.	7	L2	CO3
	b.	Explain Meissner's effect and the variation of critical field with temperature.	8	L2	CO3
	c.	A lead wire has a critical field of 6.5×10^3 A/m at 0 Kelvin. The critical temperature is 7.18K. At what temperature the critical field will drop to 4.5×10^3A/m.	5	L3	CO3
		OR			
Q.8	a.	Define Fermi factor and explain the variation of Fermi factor with temperature and energy.	8	L2	CO3
	b.	Differentiate Type – I and Type – II superconductors.	8	L2	CO3
	c.	Calculate the probability of occupation of an energy level 0.02eV above level at temperature 27°C.	4	L3	CO3
		Module – 5			
Q.9	a.	Explain the importance of (i) size and scale and (ii) weight and strength, in animation.	7	L2	CO4
	b.	Mention the general pattern of Monte – Carlo method and hence explain the procedure to find the value of 'π'.	8	L2	CO4
	c.	In the case of animating a jump, the jump height is 2.5m and jump magnification is 5. Calculate the push height and push acceleration. Given gravitational acceleration is 10m/s.	5	L3	CO5
		OR			
Q.10	a.	Describe jumping and parts of jump.	9	L2	CO4
	b.	Distinguish between descriptive and inferential statics.	6	L2	CO4
	c.	On a particular place, volcanic eruption occurs once in every 100years on an average. Calculate the probability of volcanic eruption in a 100 years interval for K = 0, 1 and 2, assuming the Poisson's model appropriate.	5	L3	CO5

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CBCS SCHEME

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BPOPS103/203

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2024

Principles of Programming using C

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Computer. Explain the various types of computer.	10	L2	CO1
	b.	Explain the basic structures of C program in detail. Write a sample program to demonstrate the components in the structure of C program.	10	L2	CO2
		OR			
Q.2	a.	Explain scanf( ) and printf( ) functions in C language with syntax and example.	08	L2	CO2
	b.	What is variable? Explain rules for constructing variable in C. Give example for valid and invalid variable.	06	L2	CO2
	c.	Illustrate the flowchart and write a C program which takes as input p, t, v compute the simple interest and display result.	06	L2	CO2
		Module – 2			
Q.3	a.	Explain the following operators in 'C': i) Relational ii) Logical iii) Conditional iv) Bitwise.	08	L2	CO2
	b.	Explain for loop statement with syntax and example program.	06	L2	CO2
	c.	Write a C program to simulate simple calculator that performs arithmetic operations using switch statement. Error message should be displayed if any attempt is made to divide by zero.	06	L2	CO3
		OR			
Q.4	a.	Explain if, if-else, nested if and cascaded if-else statements with syntax and example.	08	L2	CO2
	b.	Write a C program that takes three coefficient (a, b, c) to calculate roots of quadratic equation, print all possible roots with appropriate messages for a set of coefficients.	06	L2	CO5
	c.	Explain break and continue statements with respect while, do-while and for loops.	06	L2	CO2
		Module – 3			
Q.5	a.	Define function. Explain categories of user defined functions.	10	L2	CO4
	b.	Define two-dimension array. Write a C program to multiply 2 matrix by ensuring their multiplication compatibility.	10	L2	CO3
		OR			
Q.6	a.	Explain function call, function definition and function prototype with syntax and example for each.	10	L2	CO4
	b.	Write a C program to implement Binary search for integers.	05	L2	CO3
	c.	What is Recursion? Write a C program to compute factorial of number using recursion.	05	L2	CO3
		Module – 4			
Q.7	a.	Define string. Explain any four string manipulating functions with example.	10	L2	CO3
	b.	Write a C program to concatenate two strings without using built-in function strcut( ).	05	L2	CO3
	c.	Explain string unformatted input/output functions with example.	05	L2	CO3

		OR			
Q.8	**a.**	Define pointer. Explain pointer variable declaration and initialization with suitable example.	**08**	**L2**	**CO3**
	b.	Explain pass by value and pass by address with example.	**04**	**L2**	**CO3**
	c.	Write a C program using pointers to compute sum, mean, standard deviation of all elements stored in an array of n real numbers.	**08**	**L2**	**CO3**
		Module – 5			
Q.9	**a.**	Explain structure declaration and how structure member are accessed with example.	**10**	**L2**	**CO3**
	b.	Implement a structure to read, write and compute average marks and the students scoring above and below average of class N students.	**10**	**L3**	**CO5**
		OR			
Q.10	**a.**	Compare between structure and union with syntax and example.	**06**	**L2**	**CO3**
	b.	Explain fopen( ), fclose( ), fscanf( ) and fprintf( ) with syntax and example program considering all above functions.	**10**	**L2**	**CO4**
	c.	What are enumeration variable? How are they declared?	**04**	**L2**	**CO3**

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CBCS SCHEME

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BESCK104D/BESCKD104

First Semester B.E./B.Tech. Degree Examination, June/July 2024

Introduction to Mechanical Engineering

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.
3. Write neat sketches wherever it is necessary.

		Module – 1	M	L	C
Q.1	a.	Explain briefly the emerging trends of mechanical engineering in Automotive and Aerospace sector.	10	L2	CO1
	b.	Describe the following : i) Biofuels ii) Nuclearfuels.	10	L2	CO1
		OR			
Q.2	a.	Describe the construction and working of Hydroelectric power plant.	8	L2	CO1
	b.	Explain the utilization of solar energy using flat plate collector with a schematic diagram.	8	L2	CO1
	c.	Outline the following : i) Environmental issues ii) Fossil fuels.	4	L1	CO1
		Module – 2			
Q.3	a.	Explain the working principle of Lathe with line diagram.	7	L2	CO2
	b.	Illustrate the following operations of drilling with sketches. i) Boring ii) Reaming iii) Drilling.	6	L3	CO2
	c.	Explain the following milling operations i) Plain milling ii) Slot milling.	7	L2	CO2
		OR			
Q.4	a.	Define additive manufacturing. List the various steps involved in Additive manufacturing.	6	L1	CO2
	b.	Describe the various components of CNC with Schematic diagram.	8	L2	CO2
	c.	List the advantages and applications of 3D printing (3 each).	6	L1	CO2
		Module – 3			
Q.5	a.	Explain the working of the 4 stroke diesel engine with sketches plot the PV diagram.	12	L2	CO3
	b.	List the differences between 4 stroke petrol and diesel engine (any 8).	8	L1	CO3
		OR			
Q.6	a.	Describe Electric vehicles. Explain the components and working of the electric vehicles.	8	L2	CO3
	b.	Describe Hybrid vehicles. Explain the components of Hybrid vehicles.	8	L2	CO3
	c.	List the advantages and limitation of electric vehicles (any two each).	4	L1	CO3
		Module – 4			
Q.7	a.	Recite the classification of metals.	5	L1	CO4
	b.	Describe the following materials i) Plastics ii) Shape memory alloys.	6	L2	CO4
	c.	Observe and describe the three types of gas flames with sketches.	9	L2	CO4

		OR			
Q.8	**a.**	List the difference between soldering, Brazing and welding (at least 5).	**10**	**L1**	**CO4**
	b.	Describe the construction and working of Arc welding. Process with neat sketch.	**10**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Define Mechatronics. List the differences between open loop and closed loop system (any 6).	**8**	**L1**	**CO5**
	b.	Based on the configuration, explain the four types of Robots.	**8**	**L2**	**CO5**
	c.	List the various applications of robots in various fields.	**4**	**L3**	**CO5**
		OR			
Q.10	**a.**	Define Automation. Explain the three types of Automation.	**7**	**L1**	**CO5**
	b.	Describe the basic elements of automation system with block diagram.	**8**	**L2**	**CO5**
	c.	Define IoT. List the characteristics of IoT (any 6).	**5**	**L1**	**CO5**

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CBCS SCHEME

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BESCK204D/BESCKD204

Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Introduction to Mechanical Engineering

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	With a neat sketch explain the working principle of Nuclear Power Plant.	10	L2	CO1
	b.	Write a short note on the following: i) Global Warming ii) Ozone Depletion	10	L2	CO1
		OR			
Q.2	a.	Elucidate the emerging trends and technologies in the following sectors: i) Manufacturing sector ii) Energy sector	08	L2	CO1
	b.	With a neat sketch explain the working principle of Hydro Power Plant.	08	L2	CO1
	c.	What is the role of mechanical engineering in Industries and Society?	04	L1	CO1
		Module – 2			
Q.3	a.	What is CNC? Explain the basic components of CNC machine with a neat sketch.	10	L1 L2	CO2
	b.	List different operations that can be performed on Lathe Machine and explain the following with a neat sketch: i) Turning ii) Knurling	10	L1 L2	CO2
		OR			
Q.4	a.	List the operations that are performed on Drilling machine and explain the below: i) Boring ii) Drilling	10	L1 L2	CO2
	b.	List the advantages and applications of CNC.	06	L1	CO2
	c.	Write a short note on 3D printing.	04	L2	CO2
		Module – 3			
Q.5	a.	With a neat sketch explain the working principle of 4 stroke petrol engine along with P.V. diagram.	10	L2	CO3
	b.	Explain the components of Electric and Hybrid vehicle with a neat sketch.	10	L2	CO3
		OR			
Q.6	a.	With a neat sketch explain the working principle of 4 stroke CI engine along with P.V diagram.	10	L2	CO3
	b.	Discuss the concept of Electric and Hybrid vehicles. Also list the advantages and disadvantages of EVs and Hybrid vehicles.	10	L2	CO3
		Module – 4			
Q.7	a.	Classify engineering materials.	04	L2	CO4
	b.	Differentiate between Soldering, Brazing and Welding.	10	L2	CO4
	c.	Write a short note on Diamond and Silica materials.	06	L2	CO4
		OR			
Q.8	a.	Explain the working principle of Electric Arc Welding with a neat sketch.	10	L2	CO4
	b.	Explain different types of Flames used in Gas welding.	06	L2	CO4
	c.	Write a short note on Shape Memory Alloys.	04	L2	CO4
		Module – 5			
Q.9	a.	Define Automation. Explain the types of automation.	10	L1 L2	CO5
	b.	With an example explain open and closed loop mechatronic system.	10	L2	CO5
		OR			
Q.10	a.	Define IoT and explain the characteristics of IoT.	10	L1 L2	CO5
	b.	Explain the functional blocks of IoT with a neat sketch.	10	L2	CO5

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CBCS SCHEME

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BPLCK105B/ BPLCKB105

First Semester B.E./B.Tech Degree Examination, June/July 2024
Introduction to Python Programming

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define comparison operator and list its type. Give the difference between = = and = operator.	4	L1	CO1
	b.	Explain flow control statement in detail with if, else, whileloop and forloop.	10	L2	CO1
	c.	Build a function to calculate factorial of a number. Develop a program to compute binomial coefficient.	6	L3	CO1
		OR			
Q.2	a.	Define exception in python programming and give the basic form of an exception handling block with an example.	8	L1	CO1
	b.	Explain how to define function and to make a function call by passing an argument with an example.	4	L2	CO1
	c.	Develop a python program to read the name and year of birth of a person and to display whether the person is a senior citizen or not.	8	L3	CO1
		Module – 2			
Q.3	a.	Explain in detail about append( ) and index( ) function with respect to list in python.	6	L2	CO2
	b.	Develop suitable python program with nested list to explain copy( ) and deepcopy( ) methods.	6	L3	CO2
	c.	Tuples are immutable. Explain with an example.	8	L2	CO2
		OR			
Q.4	a.	Explain the below methods in list with suitable code : i) remove( ) ii) sor( ) iii) reverse( ).	6	L2	CO2
	b.	Outline python dictionaries with some of their methods.	8	L2	CO2
	c.	Explain Nested dictionaries with an example.	6	L2	CO2

		Module – 3			
Q.5	**a.**	Develop a code to print to most frequently appearing words in a text file.	**10**	**L3**	**CO3**
	b.	Explain below python string handling function with example : i) split( ) ii) rjust( ) iii) partition( ) iv) join( ) v) startwith( ).	**10**	**L2**	**CO3**
		OR			
Q.6	**a.**	Explain the method to restore the data to variable from the hard drive.	**10**	**L2**	**CO3**
	b.	Develop a program to sort the contents of a tent file and write the sorted content into a separate text file.	**10**	**L3**	**CO3**
		Module – 4			
Q.7	**a.**	Explain various shell utilities function.	**10**	**L2**	**CO3**
	b.	Develop a program to read and to extract all the files and folder into a ZIP file by using relevant methods.	**10**	**L3**	**CO3**
		OR			
Q.8	**a.**	Explain permanent delete and safe delete with a suitable python programming.	**10**	**L2**	**CO3**
	b.	Define Assertion. Explain the use of Assertion in a Traffic light simulation with a python program.	**10**	**L2**	**CO3**
		Module – 5			
Q.9	**a.**	Define pure function and modifier. Explain the role of pure function and modifier in application development.	**10**	**L2**	**CO3**
	b.	Explain the methods _int_ and _str_ with example.	**10**	**L2**	**CO3**
		OR			
Q.10	**a.**	Define operator overloading. Explain with suitable python program.	**10**	**L2**	**CO4**
	b.	Define polymorphism and give a suitable python program.	**10**	**L1**	**CO4**

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CBCS SCHEME

USN | | | | | | | | | | |

BPLCK205B / BPLCKB205

Second Semester B.E./B.Tech. Degree Examination, June/July 2024
Introduction to Python Programming

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain with example print( ), input( ) and len( ).	6	L2	CO1
	b.	Explain elif, for, while statement in python with example.	6	L2	CO1
	c.	Develop a program to generate Fibonacci sequence of Length(N).Read N from the console.	8	L3	CO1
		OR			
Q.2	a.	What are functions? Explain python function with parameters and return statement.	6	L2	CO1
	b.	How to handle exception in python with example.	6	L2	CO1
	c.	Explain Local and Global scope with variables for each.	8	L2	CO1
		Module – 2			
Q.3	a.	Explain the use of in and not in operator in list with examples.	6	L2	CO2
	b.	Explain negative Indexing, slicing, index( ), append( ), remove( ), pop( ), insert( ) and sort( ) with suitable example.	8	L2	CO2
	c.	Write about Mutable and Immutable data type in list.	6	L2	CO2
		OR			
Q.4	a.	Explain the following list methods with examples. i) index ( ) ii) append( ) iii) insert( ) iv) sort( ) v) reverse( ) vi) List concatenation and Replication.	10	L2	CO2
	b.	Develop a program to read the student details like Name, USN and Marks in three subjects. Display the student details, total marks and percentage with suitable messages.	10	L3	CO2
		Module – 3			
Q.5	a.	Illustrate with example opening of a life with open( ) function, reading the contents of the file with read( ) and writing to files with write ( ).	10	L2	CO3
	b.	Explain how to save variable with the shelve module.	10	L2	CO3

		OR			
Q.6	**a.**	Explain the following string methods with examples. i) isalpha( ) ii) isalnum( ) iii) isdecimal( ) iv) isspace( ) v) istitle( ).	**10**	**L2**	**CO3**
	b.	Explain about in and not in operators in string.	**5**	**L2**	**CO3**
	c.	Explain about pyperclip module.	**5**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	What are Assertions? Write the contents of an assert statement. Explain them with examples.	**10**	**L2**	**CO3**
	b.	Develop a program with a function named DivExp which takes Two parameters a, b and returns a value c(c = a/b), write suitable assertion for a > 0 in function DivExp and raise an exception for when b = 0. Develop a suitable program which reads two values from the console and calls a function DivExp.	**10**	**L3**	**CO3**
		OR			
Q.8	**a.**	Explain about files and folders can be copied using shutil module.	**10**	**L2**	**CO3**
	b.	Explain about Debug control window.	**10**	**L2**	**CO3**
		Module – 5			
Q.9	**a.**	Explain about class and objects.	**10**	**L2**	**CO4**
	b.	Explain about pure function and modifier.	**10**	**L2**	**CO4**
		OR			
Q.10	**a.**	Explain the concept of prototyping Vs planning.	**10**	**L2**	**CO4**
	b.	Explain _init_ and _str_methods with examples.	**10**	**L2**	**CO4**

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CBCS SCHEME

BENGK106/206/22BD17

USN | | | | | | | | | |

Question Paper Version : B

First/Second Semester B.E./B.Tech./B.Design Degree Examination, June/July 2024

Communicative English

(COMMON TO ALL BRANCHES)

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

Complete the following sentences by using the correct question tag : [Q.No. 1 to Q.No. 5]

1. Now you can make question tags _____?
a) can you b) won't you c) can't you d) will you

2. Few people know that you are an artist _____?
a) do they b) don't they c) aren't they d) haven't they

3. You are a bit late today _____?
a) don't you b) aren't you c) are you d) do you

4. We are learning English Grammar _______?
a) are we b) shall we c) aren't we d) shan't we

5. He was asleep _______?
a) was he b) wasn't he c) didn't he d) did he

Fill in the blank with the right prefix or suffix [Q.No. 6 to Q.No. 10].

6. She was acting very _______ during the performance.
a) dislike b) unhappiness c) unlikely d) unhappy

7. The magician's tricks were truly _______?
a) likeable b) dislike c) impossible d) carefully

8. The puppy showed great ______ when learning new things.
a) careful b) interest c) unhappiness d) interest

9. Sarah decided to _____ her wardrobe by adding some new accessories.
a) unlikely b) careful c) enhance d) dislike

10. The Scientist conducted a series of _____ experiments to test the hypothesis.
a) unlikely b) careful c) unprecedented d) dislike

Choose the appropriate form of the verb : [Q.No. 11 to Q.No. 15].

11. Every thing _____ find when its done correctly.
a) works b) working c) worked d) doesn't work

12. None of them _____ able to solve this question.
a) where b) was c) were d) wear

13. A pair of trousers _____ all that I brought along.
a) is b) was c) were d) where

14. The wind _____ furiously.
a) Blue b) blew c) blow d) blown

15. He _____ to his mother every week.
a) right b) wrote c) writes d) write

Choose the right preposition [Q.No. 16 to Q.No 20].

16. Could you put your idea _____ paper?
a) at b) on c) with d) from

17. Do not waste time _____ regret?
a) with b) at c) on d) above

18. He is very simple _____ heart.
a) on b) under c) at d) for

19. She was blind _____ the age of ten.
a) by b) a c) over d) at

20. The shops are _____ walking distance.
a) with in b) with c) by d) on

21. Develop _____
a) ccvcvcc b) cvcvcvc c) cvcvcvcv d) vccvccv

22. Principal _____
a) ccv cv vcc cv b) ccvc cv cv c c) cvc cvcc d) cvc cvc

23. Mathematics _____
a) cvc vcvcvcc b) cvc cv cv cv cvvc c) cvcvcvcvcc d) cvccv

24. Window _____
a) cvccvc b) cvccv c) cvcvc d) cvccv

25. Degree _____
a) cvccv b) cvccvc c) cvccvvc d) cvccvcv

Choose the correct option from those given in each of the sentences below : [Q.No. 26 to Q.No. 30].

26. Communication is a ______ process of understanding between two or more persons.
a) One - way b) Three - way c) Two - way d) No - way

27. Total number of sounds in English language is _____
a) 8 b) 20 c) 12 d) 44

28. The direction in which the formal communication flow is always ______
a) Upwards b) Downwards c) Horizontal way d) All of these

29. Which one of the following cannot become a type of written communication ______
a) Picture and Visual b) Rules and Instructions
c) Meeting and Conference d) Letter and Suggestion

30. Which of the following is/are not included in the tools of Verbal Communication ____
a) Graphics b) Writing c) Reading d) Listening

Choose the correct word / Phrase / Number. [Q.No. 31 to Q.No. 35].

31. One Vowel in a word usually make ______ sound.
a) Long sound b) Very long sound c) Short sound d) Very short sound

32. Long sound usually have ______ vowels.
a) 3 b) 2 c) 4 d) 6

33. Double 'OO' is pronounced as ______
a) ai b) Za c) U d) e

34. 'G' and 'K' are always silent before _____
a) X b) Z c) N d) S

35. STON is pronounced as _____
a) SH b) SCH c) Shun d) ai

Silent and non silent words : Select the missing or silent letter [Q.No. 36 to Q.No. 40].

36. _______ Sychology.
a) P b) t c) K d) Z

37. _____ rong.
a) X b) C c) W d) F

38. Do you have a ______ ?
a) doubt b) dot c) dout d) dought

39. I always ______ in class.
a) lisen b) listen c) lizen d) listen

40. _______ nife.
a) C b) K c) Z d) W

Name the parts of speech which are underlined [Q.No. 41 to Q.No. 45].

41. He walked around the part.
a) Noun b) Preposition c) Verb d) Conjunction

42. She got a strawberry ice – cream.
a) Noun b) Verb c) Interjection d) Adverb

43. Older people have less energy.
a) Verb b) Adjective c) Adverb d) Preposition

44. I like Chips and Cake.
a) Adverb b) Noun c) Conjunction d) Verb

45. My sister answered quietly.
a) Verb b) Adverb c) Noun d) Conjunction

46. I bought _______ pair of shoes.
a) the b) no article c) an d) a

47. I saw _____ movie last night.
a) an b) the c) no article d) a

48. Did you get married after leaving ______ University.
a) no article b) a c) an d) the

49. I was at ______ railway station when you called me.
a) an b) the c) a d) no article

50. ______ Mexico is a beautiful Country.
a) An b) A c) The d) no article

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CBCS SCHEME

BICOK107/207

USN | | | | | | | | | |

Question Paper Version : A

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2024

Indian Constitution

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners on the OMR sheets are strictly prohibited.**

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1. Our Constitution was adopted on and came into effect on:
a) 26th Nov 1949 and 26th Jan 1950 b) 26th Jan 1949 and 26th Jan 1950
c) 26th Feb 1946 and 26th Jan 1949 d) 15th Jan 1949 and 15th Jan 1950

2. The idea of the Constitution of India was flashed for the first time by
a) Dr. B. R. Ambedkar b) Dr. Rajendra Prasad
c) Mahatma Gandhiji d) Jawaharlal Nehru

3. The main pillars or organs of our Constitution are
a) Executive and Judiciary b) Legislature, Executive and Judiciary
c) Legislature and Judiciary d) Executive and Legislature

4. One of the salient features of our Constitution.
a) It is fully Rigid b) None of these
c) It is fully flexible d) It is partly rigid and partly flexible

5. Which Institution is called as 'Interpretor to the Indian Constitution'?
a) Supreme Court b) Parliament c) President d) Prime Minister

6. The concept of Fundamental Rights are in the nature of ______
a) Enforceable b) Justiceable c) Exhaustive d) All of these

7. Which part of the Constitution aims at establishing a welfare state in the country?
a) Preamble b) Fundamental Duties
c) Fundamental Rights d) Directive principles of state policy

8. A 14 of the Indian Constitution allows:
a) Class legislation b) Classification
c) Division of people based on geography d) Both 'a' and 'b'

9. Which article of the Constitution provides protection to the Civil servants?
a) 288 b) 315 c) 312 d) 311

10. What is contained in the tenth schedule of the Constitution?
a) Languages recognized by Constitution
b) Forms of oath or affirmation
c) Laws that cannot be challenged in any court of law
d) Provision regarding disqualification on grounds of defection.

11. The Fundamental Rights granted by the Constitution of India to its citizens cannot be suspended.
a) Except by an order of the Supreme Court
b) Under any circumstances
c) Except by an order of the president during National Emergency
d) Except through an order of the President during war.

12. Our Constitution grants to the citizens _____ fundamental rights.
a) Six b) Five c) Ten d) Seven

13. The fundamental duties of Indian citizen are contained in
a) Part III of Constitution
b) Part IV of Constitution
c) The seventh schedule of the Constitution
d) Part IV (a) of the Constitution

14. Preamble declares the objectives of Constitution as
a) Secularism
b) Justice, Liberty, Equality and Fraternity
c) Democratic Socialist
d) Liberalism

15. Secularism means
a) Absence of State Religion
b) Right of religious freedom
c) Equality of all religions
d) All of these

16. Free legal assistance for economically backward people is a _____
a) Fundamental Right
b) Fundamental duty
c) Directive principles of state policy
d) Special provision

17. Indian Constitution has
a) 12 schedules b) 7 schedules c) 9 schedules d) 10 schedules

18. Which is not a Fundamental Right
a) Right to freedom
b) Right to Equality
c) Right to Constitutional Remedies
d) Right to property.

19. Three types of Justice referred in our preamble are.
a) Social, Economic and Political
b) Economic, International and Political
c) Economic, Religious and Social
d) Religious, Social and Political

20. The preamble of the Constitution of India has been amended so far
a) Four times b) Thrice c) Twice d) Once

21. "Equal pay for Equal work" is
a) Gandhian principle
b) Sonolastic principle
c) Liberal principle
d) All of these

22. Article 22 of the Indian Constitution protects:
a) Senior citizens
b) Women
c) Children
d) Rights of arrested persons.

23. This is not a Fundamental Duty
a) To develop scientific temper
b) To protect natural environment
c) Not to indulge in corrupt practice
d) To abide by the constitution

24. Which one of the following directive principles can be described as Gandhian in nature?
a) Providing equal pay for equal work for both men and women.
b) Worker's participation in management.
c) Organization of village panchayats as units of self-government.
d) Seperation of Judiciary from the executive.

25. Directive principles of state policies are
a) Non-Justiciable
b) Justiciable
c) Only some are Justiciable
d) None of these

26. The president gives his resignation to the
a) Chief Justice
b) Parliament
c) Vice President
d) Prime Minister

27. The governor of a state is appointed by the president on the advice of the
a) Prime Minister
b) Vice-President
c) Chief Minister
d) Chief Justice

28. Who appoints the Prime Minister of India?
a) Lok Sabha
b) President
c) Parliament
d) Citizens of India

29. Minimum age required to contest for office of the president
a) 23 yrs
b) 21 yrs
c) 35 yrs
d) 30 yrs

30. Who among the following, has the right to sanction the expenditure of public money in India?
a) Speaker
b) President
c) Prime Minister
d) Parliament

31. Who can initiate impeachment proceedings against the president of India?
a) Either the Houses of Parliament
b) Any Vidham Sabha
c) Rajya Sabha
d) Only Lok Sabha

32. The impeachment proceedings against the Vice-President can be initiated.
a) Only in Lok Sabha
b) In neither House of Parliament
c) In either House of Parliament
d) Only in Rajya Sabha

33. Who appoints the ambassadors to the other nations in India
a) Foreign Minister
b) President of India
c) Minister for External affairs
d) Prime Minister

34. The Vice President is elected by an electoral college consisting of members of
a) Both Houses of Parliament and State Legislative
b) Both the Houses of Parliament
c) Lok Sabha
d) Rajya Sabha

35. Which court is called as 'Custodian of Indian Constitution?
a) Supreme Court
b) High Court
c) Both 'a' and 'b'
d) All the Courts

36. Who administers the oath of office to the President of India before he enters upon the office?
a) Chief Justice of India
b) Speaker
c) Vice President
d) Prime Minister

37. One feature distinguishing the Rajya Sabha from the Vidhan Parishad is
a) Power of Impeachment
b) Indirect Election
c) Nomination of Members
d) Tenure of Membership

38. Who acts on President of India when neither the President nor the Vice-President is available?
a) Seniormost Governor of a State
b) Chief Justice of India
c) Speaker of Lok Sabha
d) Auditor General of India

39. The retirement age of High Court Judges is:
a) 58 Years
b) 62 Years
c) 65 Years
d) 64 Years

40. What is the minimum age in years for becoming the MP at Lok Sabha and Rajya Sabha?
a) 18 and 25
b) 25 and 18
c) 25 and 30
d) 30 and 25

41. Who among the following holds office during the pleasure of President
a) Governor
b) Election Commissioner
c) Speaker of Lok Sabha
d) Prime Minister

42. A proclamation of emergency issued under Article 352 must be approached by the Parliament within
a) 3 Months
b) 2 Months
c) 1 Month
d) 6 Weeks

43. The President's Rule in a state means that the state is ruled by
a) A caretaker Government
b) The Chief Minister nominated by President
c) The Governor of the state
d) The President directly

44. The control of the preparation of electoral rolls for parliament and legislature rests with the
a) President
b) Election Commission
c) Cabinet
d) Prime Minister

45. In India, Political parties are given recognition by
a) Election Commission
b) Speaker of Lok Sabha
c) President
d) Law Commission

46. Which article deals with Constitutional amendment procedures in India
a) A 370
b) A 368
c) A 350
d) A 320

47. Center can declare Constitutional emergency in a state under article
a) A 152
b) A 365
c) A 360
d) A356

48. The Lengthiest Constitutional amendment in India was
a) 44^{th} amendment
b) 49^{th} amendment
c) 42^{nd} amendment
d) 92^{nd} amendment

49. Election Commission conducts the election as per
a) People's Representative Act
b) Parliament act
c) Judicial act
d) All of these

50. In terms of election laws of India, electioneering ceases in a constituency at least ____ hours before the commencement of the polling.
a) 48
b) 36
c) 24
d) 12

* * * * *

CBCS SCHEME

BIDTK158/258/22BD16

USN | | | | | | | | | | |

Question Paper Version : A

First/Second Semester B.E./B.Tech./B.Design Degree Examination, June/July 2024

Innovation and Design Thinking

Time: 1 hr.] [Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
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1. Design thinking is _____
   a) A process that allows engineers and designers to create new and innovative solutions to business challenges.
   b) An iterative, non-linear process which focuses on a collaboration between designers and users
   c) a and b
   d) None of these

2. Select the correct order of the different stages of design thinking.
   i) Empathize ii) Define iii) Ideate iv) Prototype v) Test
   a) ii – iii – iv – v – i
   b) i – ii – iii – iv – v
   c) iii – iv – v – i – ii
   d) iv – v – i – ii – iii

3. Which of the following principles are not considered for design thinking?
   a) Embrace experimentation
   b) Human centric design
   c) Profit centric
   d) Pattern identification for problem solving

4. To empathize one has to
   a) Observe b) Engage c) Listen d) All of these

5. Which of the following are not tools of visualization?
   a) Maps b) Images c) Stories d) Videos

6. Journey mapping is also called _____ mapping
   a) Path b) Experience c) Conduct d) Feedback

7. Which of the following are not tools of design thinking?
   a) Co creation b) Proto typing c) Mind mapping d) Online mapping

8. Which design thinking phase is closely related to the creation of an minimum viable product (MVP)?
   a) Empathize b) Prototype c) Ideate d) Test

9. Which one is the minimum viable product?

a)

b)

c) Both a and b

d) None of these

10. How can the theory and practice of design thinking work together?

a) Theory provides a set of rules to follow, while practice ensures the rules are applied effectively.

b) Theory and practice are two separate processes that do not overlap.

c) Theory provides a framework for creative problem solving, while practice develops the skills and knowledge to apply the framework effectively.

d) Theory and practice are interchangeable and can be used in any order.

11. What is real-time design interaction capture and analysis?

a) A process of capturing user feedback after the design process is complete.

b) A method of analyzing design interactions as they happen.

c) A technique for capturing user interactions with a product after it is released.

d) A way to analyze design interactions after they have occurred.

12. What types of interactions can be captured and analyzed in real-time design interaction capture and analysis?

a) User feed back and comments

b) User interface interactions

c) User demographic and preferences

d) User purchase behavior.

13. What is the importance of collaboration in design thinking?

a) It speeds up the design process

b) It eliminates the need for user research

c) It ensures all design decisions are final

d) It brings diverse perspectives and expertise to the design process.

14. What are some digital tools that can be enable efficient collaboration in design thinking?

a) E Mail

b) Social media platforms

c) Video conferencing and collaboration software

d) Design software

15. What is empathy in design?

a) Understanding the emotions and experiences of users

b) Creating products that appeal to users emotions

c) Limiting the number of user persons in the design process

d) Only designing products based on market research.

16. Why is empathy important in the design process?

a) It ensures all design decisions are final

b) It brings perspectives and expertise to the design process

c) It speeds up the design process

d) It results in product that meet users needs and desires.

17. What is the benefit of empathy in design?
a) It guarantees success in the market
b) It speeds up the design process
c) It ensures all design decisions are final
d) It leads to more meaningful and impactful products.

18. What is distributed design collaboration?
a) Collaboration between designers who are geographically separated.
b) Collaboration between designers and machines.
c) Collaboration between designers and machines
d) Collaboration between designers from different industries.

19. What are some challenges of distributed design collaboration?
a) Limited access to digital tools
b) Technical difficulties and connectivity issues
c) A lack of clear communication channels
d) A limited pool of expertise and perspectives

20. What are some benefits of real-time interaction and analysis in design thinking?
a) It allows for quick and agile decision making
b) It limits the number of team members involved in the design process
c) It eliminates the need for user research and testing
d) It reduces the amount of feed back received from users.

21. How can real time interaction and analysis be integrated into the design process?
a) By conducting user research and testing at the end of the design process only.
b) By eliminating user feedback and relying solely on personal preferences.
c) By analyzing market trends and sales data only.
d) By incorporating user feedback throughout the entire design process.

22. What are some common tools used in the empathy phase of design thinking?
a) Persona development and user interviews
b) Brain storming and ideation sessions
c) Sketching and prototyping
d) User testing and feedback analysis.

23. What is the role of empathy in design thinking in IT?
a) To understand the needs and challenges of IT users and stake holders.
b) To create visually appealing IT products and services.
c) To ensure compliance with industry standards and regulations.
d) To increase profits for the IT organization.

24. What is the importance of prototyping in design thinking in IT?
a) To test and refine IT products and services before launch.
b) To show case IT capabilities to stake holders.
c) To impress user with cutting edge technology.
d) To ensure compliance with industry standards and regulations.

25. What is the goal of using design thinking in business process modeling?
a) To create visually appealing process diagrams.
b) To stream line business operations and increase efficiency.
c) To reduce costs for the organization.
d) To comply with industry regulations and standards.

26. What is the importance of prototyping in design thinking in business process modeling?
a) To test and refine process models before implementation.
b) To show case the organizations capabilities to stakeholders.
c) To impress users with cutting edge technology.
d) To ensure compliance with industry standards and regulations.

27. What are some common challenges that can be addressed using design thinking in business process modeling?
a) Inefficient processes that waste time and resources.
b) Poor communication and collaboration between departments.
c) Resistance to change from process users and stakeholders.
d) All of these

28. What is the goal of using agile methodology in design thinking?
a) To create aesthetically pleasing designs
b) To increase efficiency and productivity in the design process
c) To reduce costs for the organization
d) To comply with Industry regulations and standards.

29. What is the importance of prototyping in agile design thinking?
a) To quickly test and refine design ideas
b) To showcase design capabilities to stoke holders
c) To impress users with cutting edge technology
d) To ensure compliance with industry standards and regulations

30. What are some common challenges that can be addressed using agile design thinking?
a) Inefficient design processes that waste time and resources.
b) Poor communication and collaboration between team members.
c) Resistance to change from users and stakeholders.
d) All of these

31. What is the goal of using agile technology in virtual collaboration environments for design thinking?
a) To create aesthetically pleasing designs
b) To increase efficiency and productivity in the design process
c) To reduce costs for the organization
d) To comply with industry regulations and standards

32. Why is scenario based prototyping important in innovation design thinking?
a) It allows for faster development of prototypes
b) It helps to identify potential usability issues before the product is released
c) It reduces the cost of creating prototypes
d) None of these

33. What is the first step in scenario based prototyping?
a) Creating a detailed technical specification
b) identifying potential users and use cases
c) Building a physical mock up of the product
d) None of these

34. What are the key stages of the design thinking process?
a) Ideation, testing, and implementation
b) Empathy, define, ideate, prototype and test
c) Planning, execution and evaluation
d) None of these

35. What is storytelling in the context of design thinking?
a) If is the process of creating a narrative around a design solution.
b) It is the process of creating a story board to communicate design ideas.
c) It is the process of creating a visual representation of a design concept.
d) None of these

36. What are some common tools and techniques used in strategic foresight?
a) Scenario planning, trend analysis, and expert interviews
b) Prototyping, user testing and iterative design
c) Market research, customer feed back, and competitive analysis
d) None of these

37. What are some common tools and techniques used in sensemaking?
a) Empathy mapping, customer journey mapping and data visualization.
b) Prototyping, user testing and iterative design
c) Market research, customer feedback and competitive analysis
d) None of these

38. What is maintenance in the context of design thinking?
a) The process of repairing and upgrading existing design solutions.
b) The process of creating new design solutions from scratch.
c) The process of evaluating the effectiveness of existing design solutions.
d) None of these

39. What is value redefinition in the context of design thinking?
a) The process of identifying and redefining the value proposition of a design solution.
b) The process of creating a detailed technical specification for a design solution.
c) The process of evaluating the effectiveness of existing design solutions.
d) None of these

40. What is extreme competition in the context of design thinking?
a) The process of competing against other design teams to create the best solution.
b) The process of pushing design teams to their limits to create innovative solutions.
c) The process of collaborating with competitors to create a joint solution.
d) None of these

41. What is experience design in the context of design thinking?
a) The process of designing physical products and services.
b) The process of designing digital interfaces and interactions.
c) The process of designing holistic experiences for users across all touch points.
d) None of these

42. What is standardization in the context of design thinking?
a) The process of creating standardized design solutions.
b) The process of following a standard set of design principles.
c) The process of establishing standards for design processes and methodologies.
d) None of these

43. What is humanization in the context of design thinking?
a) The process of marking designs more human centered and empathetic.
b) The process of making designs more technically advanced.
c) The process of making designs more aesthetically pleasing.
d) None of these

44. How can a creative culture be fastened in the design thinking process?
a) By encouraging risk-taking and experimentation
b) By establishing rigid design processes and guide lines
c) By prioritizing cost effectiveness over innovation
d) None of these

45. What are some common tools and techniques used in rapid prototyping?
a) Sketching, wire framing and paper prototyping
b) 3D printing, laser cutting and CNC machining
c) User research, market analysis and competitive analysis
d) None of these

46. How can a business model be designed using design thinking?
a) By identifying customer needs and pain points and designing solutions that address them.
b) By following a set of established business practices and industry standards.
c) By prioritizing cost effective over customer value.
d) None of these

47. Which phase is referred to as an experimental phase where continuous iterations can take place?
a) Define   b) Empathise   c) Prototype   d) None of these

48. What is the term used to describe the process of narrowing down thoughts to reach the final solution?
a) Convergent thinking   b) Divergent thinking
c) None of these   d) Both a and b

49. Design thinking is typically used to provide a solution based approach to problem solving
a) True   b) False

50. Can design thinking be applied in professions outside of design?
a) True   b) False

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