Code A

Total Printed Pages : 23

SKILL ASSISTANT PROFESSOR

MATHEMATICS

100017

OMR Sr. No._____ Booklet Sr. No.

Time : 90 Minutes Total Questions : 100 Max. Marks : 100

Roll No. (in Figure)_____ (in Words)_____

(Signature of the Candidate) (Signature of the Invigilator)

IMPORTANT

DO NOT OPEN THE BOOKLET UNLESS YOU ARE ASKED TO DO SO

FIRST READ FOLLOWING INSTRUCTIONS CAREFULLY.

1. The candidate will fill up required particulars including his/her roll no. and signature on the OMR sheet with ball point pen (Black/Blue) in the appropriate boxes.
2. Ten minutes before the commencement of the test, question booklet and OMR sheet will be distributed to the candidates.
3. Immediately on opening the question-booklet, the candidate should check the booklet & OMR sheet and ensure himself/herself that it contains 100 multiple choice questions (Sr. No. **1** to **100**). Discrepancy, if any, should be reported by the candidate to the invigilator within 5 (five) minutes of the opening of the question booklet and should ask the invigilator for replacement.
4. **For each question, four suggested answers A, B, C, D are given. The candidate is to choose only one answer which he/she considers the correct or the best one. If candidate darkens more than one circle or cutting/overwriting/erasing (by eraser, white fluid or any other chemicals) then such answer(s) shall not be evaluated.**
5. The answers should be marked by darkening appropriate circle provided in front of the concerned serial number on the OMR Sheet only with **black/blue pen. Use of pencil is not allowed.** For instance, while answering the Question No.26 of the question booklet, the correct answer **A** or **B** or **C** or **D** at serial No. 26 of OMR sheet should only be darkened.
6. The candidate should be careful in handling the question-paper and in darkening the answers on the OMR Sheet. **The second question booklet/OMR sheet will not be supplied in case there is no discrepancy in the booklet/OMR sheet already supplied.**
7. Bringing of incriminating materials/electronic gadgets/devices including cell phone in the premises of the examination centre is strictly prohibited. Possessing of incriminating materials electronic gadgets/ devices and any other aiding material in the examination room will be a serious offence and it will attract the cancellation of the candidature.
8. The candidate will not be permitted to leave the examination hall before the conclusion of the test. The candidate should make sure that question-booklet including OMR sheet is handed over to the invigilator before leaving the examination hall at the end of the test, failing which, a case of use of unfair-means/ misbehavior will be registered against him/her, in addition to lodging of an FIR with the police. Further, OMR sheet of such a candidate will not be evaluated.
9. The candidate can do rough-workson the back of the title cover of question booklet. Rough-work on OMR sheet is **prohibited**.
10. ***Mobile Phones are not at all allowed inside the Examination Hall.***
11. It is for the information that entire examination shall be recorded by video camera and impersonation shall lead to disqualification and registration of Police Case.
12. Programmable Calculator is not allowed.

SEAL

1. If $\{x_n\}$ is a convergent sequence in R and $\{y_n\}$ is a bounded sequence in R, then :

(A) $\{x_n + y_n\}$ is convergent

(B) $\{x_n + y_n\}$ is bounded

(C) $\{x_n + y_n\}$ has no convergent subsequence

(D) $\{x_n + y_n\}$ has no bounded subsequence

2. Let $a_1 = 1$ and $a_n = a_{n-1} + 4$, $n \geq 2$. Then $\lim_{n\to\infty}\left[\frac{1}{a_1 a_2} + \frac{1}{a_2 a_3} + \ldots\ldots\ldots + \frac{1}{a_{n-1} a_n}\right]$ is equal to :

(A) 0.24 (B) 0.42

(C) 0.62 (D) None of these

3. Let $f_n : [0,1] \to R$ be given by $f_n(x) = \frac{2x^2}{x^2 + (1-2nx)^2}$, $n = 1, 2, \ldots\ldots\ldots$. Then the sequence (f_n) :

(A) Converges uniformly on [0,1]

(B) Does not converge uniformly on [0,1] but has a subsequence that converges uniformly on [0,1]

(C) Does not converge pointwise on [0,1]

(D) Converge pointwise on [0,1] but does not have a subsequence that converges uniformly on [0,1]

4. Let $\alpha = \int_0^\infty \frac{1}{1+t^2} dt$. Which of the following is *true* ?

(A) $\frac{d\alpha}{dt} = \frac{1}{1+t^2}$ (B) α is a rational number

(C) $\log(\alpha) = 1$ (D) $\sin(\alpha) = 1$

5. Let $f(x,y)=\log\left(\cos^2(e^{x^2})\right)+\sin(x+y)$. Then $\frac{\partial}{\partial y}\frac{\partial}{\partial x}f(x,y)$ is :

(A) $\frac{\cos(e^{x^2})-1}{1+\sin^2(e^{x^2})}-\cos(x+y)$

(B) 0

(C) $-\sin(x+y)$

(D) $\cos(x+y)$

6. Let $f:\mathrm{R}^2\to\mathrm{R}$ be defined by $f(x,y)=\begin{cases}\sin\left(\frac{y^2}{x}\right)\sqrt{x^2+y^2}, & x\neq 0\\ 0, & x=0\end{cases}$. Then at (0, 0) :

(A) f is continuous and the directional derivative of f does not exist in some direction.

(B) f is not continuous and the directional derivative of f exist in all directions.

(C) f is not differentiable and the directional derivative of f exist in all directions.

(D) f is differentiable

7. Let X and Y be metric spaces, and let $f:\mathrm{X}\to\mathrm{Y}$ be a continuous map. For any subset S of X, which one of the following statements is *true* ?

(A) If S is connected, then f(S) is connected

(B) If S is open, then f(S) is open

(C) If S is closed, then f(S) is closed

(D) If S is bounded, then f(S) is bounded

8. Let {X, Y, Z} be a basis of R^3. Consider the following statements P and Q :

(P) : $\{X+Y, Y+Z, X-Z\}$ is a basis of R^3.

(Q) : $\{X+Y+Z, X+2Y-Z, X-3Z\}$ is a basis of R^3.

Which of the above statements hold TRUE ?

(A) both P and Q

(B) only P

(C) only Q

(D) Neither P nor Q

9. Consider the subspaces of :

$W_1=\{(x_1,x_2,x_3)\in R^3 : x_1=x_2+2x_3\}$, $W_2=\{(x_1,x_2,x_3)\in R^3 : x_1=3x_2+2x_3\}$, of R^3

Then the dimension of W_1+W_2 is :

(A) 8

(B) 3

(C) 1

(D) 6

10. Let A be a (m × n) matrix and B be a (n × m) matrix over real numbers with $m < n$. Then matrix :

(A) AB is always nonsingular

(B) AB is always singular

(C) BA is always nonsingular

(D) BA is always singular

11. Let A be a (2 × 2) matrix over R with Det (A+ I) = 1+ Det (A). Then :

(A) Det (A) = 0

(B) A = 0

(C) Trace (A) = 0

(D) A is non-singular

12. Consider a real vector space V of dimension n and a non-zero linear transformation $T : V \to V$. If dimension $(T(V)) < n$ and $T^2 = \lambda T$, for some $\lambda \in R \setminus \{0\}$, then which of the following statements is TRUE ?

(A) determinant $(T) = |\lambda|^n$

(B) There exists a non-trivial subspace V_1 of V such that $T(X) = 0$ for all $X \in V_1$

(C) T is invertible

(D) λ is the only eigenvalue of T

13. Let R^n, $n \geq 2$ be equipped with standard inner product. Let $\{v_1, v_2, v_3, \ldots\ldots\ldots, v_n\}$ be n column vectors forming an orthonormal basis of R^n. Let A be the $n \times n$ matrix formed by the column vectors $v_1, v_2, v_3, \ldots\ldots\ldots, v_n$. Then :

(A) $A = A^{-1}$ (B) $A = A^T$

(C) $A^{-1} = A^T$ (D) $\text{Det}(A) = 1$

14. Let $f(z) = (x^2 + y^2) + i\,2xy$ and $g(z) = 2xy + i(y^2 - x^2)$ for $z = x + iy \in C$. Then in the complex plane C :

(A) f is not analytic and g is analytic

(B) f is analytic and g is not analytic

(C) Neither f nor g is analytic

(D) Both f and g are analytic

15. Let Γ be the circle given by $z = 4e^{i\theta}$, where θ varies from 0 to 2π. Then $\oint_\Gamma \frac{e^z}{z^2 - 2z} dz$ is equal to :

(A) $2\pi i\,(e^2 - 1)$ (B) $\pi i(1 - e^2)$

(C) $\pi i(e^2 - 1)$ (D) $2\pi i(1 - e^2)$

16. In the Laurent series expansion of $f(z)=\frac{1}{z(z-1)}$ for $|z-1|>1$, the coefficient of $\frac{1}{z-1}$ is equal to :

(A) -2 (B) -1

(C) 0 (D) 1

17. The image of the half plane $\mathrm{Re}(z)+\mathrm{Im}(z)>0$ under the map $w=\frac{z-1}{z+i}$ is given by :

(A) $\mathrm{Re}(w)>0$ (B) $\mathrm{Im}(w)>0$

(C) $|w|>1$ (D) $|w|<1$

18. In the permutation group S_6, the number of elements of order 8 is :

(A) 0 (B) 1

(C) 2 (D) 4

19. Let G be a group whose presentation is $G=\{x,y: x^5=y^2=e, x^2y=yx\}$. Then G is isomorphic to :

(A) Z_5 (B) Z_{10}

(C) Z_2 (D) Z_{30}

20. Let $G = S_3$ be the permutation group of 3 symbols. Then :

(A) G is isomorphic to a subgroup of a cyclic group

(B) There exist a cyclic group H such that G maps homomorphically onto H

(C) G is a product of cyclic groups

(D) There exists a non-trivial group homomorphism from G to the additive group (Q, +) of rational numbers

21. Which of the following statements is *true* ?

(A) A subring of an integral domain is an integral domain

(B) A subring of a unique factorization domain(UFD) is a UFD

(C) A subring of a principal ideal domain(PID) is a PID

(D) A subring of a Euclidean domain is a Euclidean domain

22. Let F be a field with 7^6 elements and let K be a subfield of F with 49 elements. Then the dimension of F as a vector space over K is :

(A) 2 (B) 5

(C) 1 (D) 3

23. Consider the polynomial $p(X)=X^4+4$ in the ring Q[X] of polynomials in the variable X with coefficients in the field Q of rational numbers. Then :

(A) the set of zeros of p(X) in C forms a group under multiplication

(B) p(X) is reducible in the ring Q[X]

(C) the splitting field of p(X) has degree 3 over Q

(D) the splitting field of p(X) has degree 4 over Q

24. Let X and Y be topological spaces and let $f:X\to Y$ be a continuous surjective function. Which one of the following statements is *true* ?

(A) If X is separable, then Y is separable.

(B) If X is first countable, then Y is first countable.

(C) If X is Hausdorff, then Y is Hausdorff.

(D) If X is regular, then Y is regular.

25. Let (R, τ) be a topological space with the co-finite topology. Every infinite subset of R is :

(A) Compact but not connected

(B) Both compact and connected

(C) Not-compact but connected

(D) Neither compact nor connected

26. Let X denote R^2 endowed with the usual topology. Let Y denote R endowed with the co-finite topology. If Z is the product topological space Y × Y, then :

(A) the topology of X is the same as the topology of Z

(B) the topology of X is strictly coarser (weaker) than that of Z

(C) the topology of Z is strictly coarser (weaker) than that of X

(D) the topology of X cannot be compared with that of Z

27. Consider the ordinary differential equation $y''+P(x)y'+Q(x)y=0$, where P and Q are smooth functions. Let y_1 and y_2 be any two solutions of the ODE. Let $W(x)$ be the corresponding Wronskian. Then which of the following is always *true* ?

(A) If y_1 and y_2 are linearly dependent, then $\exists x_1, x_2$ such that $W(x_1)=0$ and $W(x_2)\neq 0$

(B) If y_1 and y_2 are linearly independent, then $W(x)=0\ \forall x$

(C) If y_1 and y_2 are linearly dependent, then $W(x)\neq 0\ \forall x$

(D) If y_1 and y_2 are linearly independent, then $W(x)\neq 0\ \forall x$

28. Consider the system of differential equations $\frac{dx}{dt} = 2x - 7y$; $\frac{dy}{dt} = 3x - 8y$. Then the critical point (0, 0) of the system is an :

(A) Unstable node

(B) Asymptotically stable node

(C) Asymptotically stable spiral

(D) Unstable spiral

29. Using method of variation of parameters, the solution of the differential equation $y'' - 6y' + 9y = e^{3x}/x^2$ is :

(A) $y = (c_1 + c_2 x)e^{3x} - e^{3x}(\log x + 1)$

(B) $y = (c_1 + c_2 x)e^{2x} + e^{2x}(\log x + 1)$

(C) $y = (c_1 + c_2 x)e^{4x} - e^{3x}(\log x - 1)$

(D) None of the above

30. The solution of Partial differential equation $\frac{y^2 z}{x} p + xzq = y^2$ is :

(A) $x^3 - y^3 = f(x^2 - z^2)$ (B) $x^3 - y^3 = f(x - z)$

(C) $x^2 + y^2 = f(x - z)$ (D) None of these

31. The Cauchy problem $2\frac{\partial u}{\partial x} + 3\frac{\partial u}{\partial y} = 5; u = 1$ on the line $3x - 2y = 0$ has :

(A) exactly one solution

(B) exactly two solutions

(C) infinitely many solutions

(D) no solution

32. Let $u(x, y)$ be the solution of $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}=4u$ satisfying the condition $u(x, y)=1$ on the circle $x^2+y^2=1$. Then $u(2, 2)$ equals :

(A) 32 (B) 25

(C) 64 (D) 44

33. Newton's iterative formula to find the value of $\sqrt{N}$ is :

(A) $x_{n+1}=\frac{1}{2}\left(x_n+\frac{N}{x_n}\right)$

(B) $x_{n+1}=\frac{1}{2}\left(x_n+\frac{2N}{x_n}\right)$

(C) $x_{n+1}=\frac{1}{2}\left(Nx_n+\frac{1}{x_n}\right)$

(D) None of the above

34. If $y_0=1, y_1=5, y_2=8, y_3=3, y_4=7, y_5=0$, then $\Delta^5 y_0 =$

(A) 61 (B) –62

(C) 62 (D) –61

35. The value of function $f(x)$ at 5 discrete points are given below :

x	0	0.5	1	1.5	2
$f(x)$	0	0.25	1	2.25	4

Using Simpson's one-third rule, the value of $\int_0^2 f(x)\,dx$ is :

(A) 4/3 (B) 5/3

(C) 8/3 (D) 7/3

36. Consider $J[y]=\int_0^1[(y')^2+2y]dx$ subject to $y(0)=0,\ y(1)=1$. Then inf $J[y]$:

(A) 21/24

(B) 23/12

(C) 18/25

(D) does not exist

37. The extremal of the functional :

$J[y]=\int_0^1 y'^2(x)dx$ subject to $y(0)=0,\ y(1)=1$ and $\int_0^1 y(x)dx=0$ is :

(A) $3x^2-2x$

(B) $8x^3-9x^2+2x$

(C) $\frac{5}{4}x^4-\frac{2}{3}x$

(D) $\frac{-21}{2}x^5+10x^4+4x^3-\frac{5}{2}x$

38. The solution of the integral equation $\phi(x)=e^x+\lambda\int_0^1 2e^x e^{\xi}\ \phi(\xi)d\xi$, is :

(A) $\phi(x)=\frac{e^x}{1-\lambda(e^2-1)},\ \lambda\neq\frac{1}{e^2-1}$

(B) $\phi(x)=\frac{xe^x}{1-\lambda(e^2-1)},\ \lambda\neq\frac{1}{1-e^2}$

(C) $\phi(x)=\frac{e^x}{1-\lambda(e-1)},\ \lambda\neq\frac{1}{e-1}$

(D) None of the above

39. The eigenvalues (λ) of the homogeneous integral equation $\phi(x)=\lambda \int_0^{\pi} \cos(x+\xi)\ \phi(\xi)\,d\xi$ are :

(A) $\lambda_1=\frac{-4}{\pi}, \lambda_2=\frac{4}{\pi}$

(B) $\lambda_1=\frac{-\pi}{2}, \lambda_2=\frac{\pi}{2}$

(C) $\lambda_1=\frac{-2}{\pi}, \lambda_2=\frac{2}{\pi}$

(D) None of the above

40. The resolvent kernel for the integral equation $\phi(x)=x^2+\int_0^x e^{t-s}\ \phi(t)\,dt$ is :

(A) e^{t-x} (B) 1

(C) e^{x-t} (D) x^2+e^{x-t}

41. The Hamilton's Canonical equations of motion are (where symbols have their usual meanings) :

(A) $\dot{q}_j=\frac{\partial H}{\partial p_j}, \dot{p}_j=-\frac{\partial H}{\partial q_j}$

(B) $\dot{q}_j=-\frac{\partial H}{\partial p_j}, \dot{p}_j=\frac{\partial H}{\partial q_j}$

(C) $\dot{H}=\frac{\partial L}{\partial q_j}, \dot{L}=\frac{\partial H}{\partial q_j}$

(D) None of the above

42. The relation between Hamiltonian and Lagrangian is given by (where symbols have their usual meanings) :

(A) $H = \sum p_j \dot{q}_j + L$ (B) $H = \sum p_j \dot{q}_j - L$

(C) $H = \sum \dot{p}_j q_j - L$ (D) $H = \sum \dot{p}_j \dot{q}_j + L$

43. The following equations represent :

$L_1 = A\dot{\omega}_1 - (B-C)\omega_2\omega_3$, $L_2 = B\dot{\omega}_2 - (C-A)\omega_3\omega_1$, $L_3 = C\dot{\omega}_3 - (A-B)\omega_1\omega_2$

where $\mathbf{L} = [L_1, L_2, L_3]$ is the vector moment of the external forces about a fixed point O, $\boldsymbol{\omega} = [\omega_1, \omega_2, \omega_3]$ the angular velocity, and A, B, C are the principal moments of inertia,

(A) Lagrange's equations for a holonomic system

(B) Angular momenta of the rigid body

(C) Euler's dynamical equations of motion

(D) None of the above

44. Standard Normal Variate has :

(A) Mean = 1 and variance = 0

(B) Mean = 0 and variance = 1

(C) Mean = 1 and variance = 1

(D) None of the above

45. Let the probability density function $f(x)$ of a continuous random variable is :

$$f(x) = \begin{cases} kx^2, & 0 < x < 3 \\ 0, & \text{otherwise} \end{cases}$$

Then, the value of k is equal to :

(A) 1/9 (B) 1/3

(C) 2/5 (D) 4/5

46. Suppose X and Y are two random variables such that $aX + bY$ is a normal random variable for all $a, b \in R$. Consider the following statements P, Q, R and S :

(P) : X is a standard normal random variable.

(Q) : The conditional distribution of X given Y is normal.

(R) : The conditional distribution of X given X + Y is normal.

(S) : X – Y has mean 0.

Which of the above statements always hold TRUE ?

(A) both P and Q

(B) both Q and R

(C) both Q and S

(D) both P and S

47. Let $X_1, X_2, \ldots$ be independent and identically distributed standard normal random variables and let $T_n = \frac{X_1^2 + \cdots + X_n^2}{n}$. Then :

(A) The limiting distribution of $T_n - 1$ is χ^2 with 1 degree of freedom.

(B) The limiting distribution of $\frac{T_n - 1}{\sqrt{n}}$ is normal with mean 0 and variance 2.

(C) The limiting distribution of $\sqrt{n}(T_n - 1)$ is normal with mean 0 and variance 2

(D) The limiting distribution of $\sqrt{n}(T_n - 1)$ is χ^2 with 1 degree of freedom.

48. Let $\{X_n : n \geq 0\}$ be a Markov chain on a finite state space S with stationary transition probability matrix. Suppose that the chain is *not* irreducible. Then the Markov chain :

(A) admits infinitely many stationary distributions.

(B) admits a unique stationary distribution.

(C) may not admit any stationary distribution.

(D) cannot admit exactly two stationary distributions

49. Let $X_1, X_2, X_3, \ldots\ldots\ldots, X_n$ be a random sample from the following probability density function for $0<\mu<\infty, 0<\alpha<1$,

$$f(x;\mu,\alpha)=\begin{cases}\dfrac{1}{\Gamma(\alpha)}(x-\mu)^{\alpha-1}e^{-(x-\mu)}, & x>\mu \\ 0 & \text{, otherwise}\end{cases}$$

Here α and μ unknown parameters. Which of the following statements is TRUE ?

(A) Maximum likelihood estimator of only μ exists

(B) Maximum likelihood estimator of only α exists

(C) Maximum likelihood estimators of both α and μ exist

(D) Maximum likelihood estimator of neither α nor μ exists

50. Consider the linear programming problem (LPP) :

Maximize $4x_1+6x_2$ subject to

$x_1+x_2 \leq 8; 2x_1+3x_2 \geq 18; x_1 \geq 6$; x_2 is unrestricted in sign

Then the LPP has :

(A) No optimal solution

(B) Only one basic feasible solution and that is optimal

(C) More than one basic feasible solution and a unique optimal solution

(D) Infinitely many optimal solutions

51. Correlation coefficient values lies between :

(A) -1 and $+1$ (B) 0 and 1

(C) -1 and 0 (D) None of these

52. If two variables oppose each other then the correlation will be :

(A) Positive (B) Zero

(C) Perfect (D) Negative

53. For learner, education technology play a vital role for his :

(A) Awareness, appreciative and equipped

(B) Honest, wise and aware

(C) Effective, honest and wise

(D) Creative, appreciative and wise.

54. Broader in meaning is :

(A) Aims (B) Objectives

(C) Instructional objectives (D) Specific objectives

55. If 10% is added to each value of variable, the geometric mean of new variable is added by :

(A) 90% (B) 10%

(C) 110% (D) No change

56. A test measure, for what it is meant is called :

(A) Correlation (B) Reliability

(C) Variance (D) Validity

57. The major objective of learning education technology is to get :

(A) Oriented
(B) Facilitated
(C) Integrated
(D) Evaluated

58. Learning objectives are defined/written in terms of :

(A) Performance criterion
(B) Action verb
(C) Intent of evaluation
(D) Teaching method

59. The group approach is likely to be particularly effective for the students of vocational training because it :

(A) increases the students' overall learning efficiency and sense of contribution during the project

(B) enables students who usually achieve at varied levels to perform at a level similar to that of high-achieving peers in the class

(C) uses the students' interest in social interactions to enhance motivation and increase engagement in the learning process.

(D) prompts the students to use a greater variety of methods and approaches to pursue broader, more complex research topics.

60. In a distribution of 10, 20, 30, 40, 50, the x is 30, the sum of deviations from x will be :

(A) 0
(B) 30
(C) 60
(D) 15

61. Analyzing, the information, thinking creatively, problem solving, reasoning, evaluating are the above said skills of :

(A) Critical thinking
(B) Creative thinking
(C) Problem solving
(D) Decision making

62. For effective implementation of Cognitive Learning Theory (CLT) the teacher has to consider predominantly :

(A) Behavioural factors of the learners

(B) Behavioural as well as personal factors of the learners

(C) Behavioural and environmental factors

(D) Behavioural, personal and environmental factors

63. Reliability of a test means :

(A) Corrected (B) Precision

(C) Accuracy (D) Result oriented

64. Foundation of our learning is related to first hand experience due to :

(A) Direct purposeful experience (B) Direct personal engagement

(C) Direct educational engagement (D) Direct educational experience

65. Which of the following is a non-example of operant conditioning ?

(A) Parents rewarding the student's excellent grades with some prize

(B) Students copy a diagram drawn on the board

(C) A school teacher awards points to those students who are the calmest and well-behaved

(D) Students help each other

66. .....can be regarded as an outcome of cognitive process.

(A) Problem solving (B) Decision making

(C) Empathy (D) Critical thinking

67. In knowledge domain, top hierarchy order out of the following is :

(A) knowledge (B) application

(C) understanding (D) analysis

68. Involves the collection, organisation and analysis of numerical data :

(A) Assessment
(B) Measurement and evaluation
(C) Evaluation
(D) Statistics

69. The goal of teaching is :

(A) To give information
(B) To involve pupils in activities
(C) To impart knowledge
(D) Desirable change in behaviour

70. Heuristic means to :

(A) investigate
(B) show
(C) do
(D) act

71. Considers the deviation each score is away from the mean of the distribution :

(A) Minimum deviation
(B) Mean deviation
(C) Medium deviation
(D) Maximum deviation

72. Prof. Ramesh and Prof. Suresh collected data on the same set of students using the same test and find their data is almost exactly the same. This indicates test has :

(A) Double reliability
(B) Split half-reliability
(C) Alternate reliability
(D) Inter-rater reliability

73. In the taxonomy of affective domain, which is at the top in hierarchy, out of the following ?

(A) Valuing
(B) Receiving
(C) Responding
(D) Organising

74. The integrated (Science, Humanities and Entrepreneurship) instructional approach can be expected to enhance student learning primarily by :

(A) connecting ideas for students in ways that make content more authentic and meaningful.

(B) facilitating students' accelerated achievement of content standards in multiple subject areas.

(C) presenting students with tasks that are responsive to their individual learning preferences.

(D) promoting students' ability to apply a wide range of academic problem-solving strategies.

75. The product derived after going through knowledge and skills of a course is called :

(A) Programme Specific Outcomes

(B) Course Outcomes

(C) Programmes Outcomes

(D) Session Outcomes

76. Example of psychomotor domain is that student :

(A) Demonstrates awareness to environmental pollution

(B) Performs an experiment

(C) Can compute results of two experiments

(D) Can narrate a story

77. The subject which is meant for scientific and organised teaching-learning process and or a product :

(A) Instructional Technology

(B) Audio, Video and Media Technology

(C) Educational Technology

(D) Educational Media

78. Teacher performs practically and explains in :

(A) Lecture method (B) Discovery method

(C) Demonstration method (D) Problem solving method

79. The standard error is a statistical measure of :

(A) The normal distribution of scores

(B) The extent to which a sample mean is likely to differ from the population mean

(C) The clustering of scores at each end

(D) Accuracy of stratified sample

80. A self-instructional is a form of learning which works as strategy to promote :

(A) Problem solving method

(B) Group dynamics strategy

(C) Focussed group learning

(D) Learning to learn attitude

81. Which is vast in scope :

(A) Teaching tactic (B) Teaching technique

(C) Teaching strategy (D) Teaching method

82. Trait of characteristic that can assume more than one value :

(A) Variable data (B) Unground data

(C) Population (D) Discrete Data

83. Micro teaching focuses on the competency over :

(A) Method (B) Skills

(C) Content (D) None of these

84. To assess achievement at the end of instructions is :

(A) Placement assessment (B) Formative assessment

(C) Summative assessment (D) Diagnostic assessment

85. Process of measuring, evaluating, identifying and prescribing. Using result to identify performance and problems and then prescribing a solution :

(A) Observation (B) Assessment

(C) Marking (D) Testing

86. Vast of all in scope :

(A) Test (B) Measurement

(C) Assessment (D) Evaluation

87. Direct Instructional Model gives priority to :

(A) Mastery Learning (B) Global Learning

(C) Analytical Learning (D) Critical Learning

88. Projective techniques are used to measure :

(A) Aptitude (B) Intelligence

(C) Knowledge (D) Personality

89. A well-structured curriculum is comprises of :

(A) Curriculum, content and study notes

(B) Content outline, teaching methods and lab work

(C) Instructional strategies, learning experiences and performance assessment

(D) Content, instructional strategies and study references.

90. The number of score lying in a class interval is :

(A) Mid point
(B) Quartiles
(C) Class boundaries
(D) Frequencies

91. A type of diagram that is used to cluster complex apparently unrelated data into natural and meaningful groups :

(A) Dogbone diagram
(B) Natural diagram
(C) Fishbone diagram
(D) Affinity diagram

92. Positive reinforcement works as base for learning opportunities for the students. This can be achieved by :

(A) Providing stimulus and feedback
(B) Through observation
(C) Evaluation of reports related to performance
(D) Punishment for non-performance

93. Part of the subgroup of the given population in which every member has an equal chance of being included in the sample :

(A) Continuous sample
(B) Random sample
(C) Ungrouped sample
(D) Grouped sample

94. CALL stands for :

(A) Computer Advancement for Language Learner
(B) Computer Aided Language Learning
(C) Computer Aided Linguistic Learner
(D) Computer Aided Lab Lecture

95. Proportionate replica of real objects are called :

(A) Real (B) Mock-up

(C) Model (D) Replica

96. In which, question marking will be more reliable ?

(A) Completion (B) Short answer

(C) Multiple choice questions (D) Essay

97. The right sequence is :

(A) Test assessment, evaluation, measurement

(B) Assessment, measurement, evaluation, test

(C) Test, measurement, assessment, evaluation

(D) Evaluation, test, measurement, assessment

98. Case study helps in :

(A) Development of problem solving skills

(B) Simplifying complex phenomena's

(C) Understanding life issues

(D) Development of cognitive skills of higher order

99. Permanent difficulties in learning are investigated in :

(A) Summative evaluation (B) Diagnostic evaluation

(C) Formative evaluation (D) None of these

100. An assessment tools namely Rubrics :

(A) Requires lot of time to develop exact performance statement

(B) Need to be continuously revised for better results

(C) Helps faculty grade/score more accurately, fairly and reliably

(D) Clarifies quality expectations to students regarding their projects

SVSU Recrutment Examination 2019 Loaded Key Sheet for : 35 - Skill Assistant Professor (Mathematics) , Set Code : A									
Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1	B	21	A	41	A	61	A	81	C
2	A	22	D	42	B	62	D	82	A
3	D	23	B	43	C	63	C	83	B
4	D	24	A	44	B	64	A	84	C
5	C	25	B	45	A	65	B	85	B
6	C	26	C	46	B	66	B	86	D
7	A	27	D	47	C	67	D	87	A
8	C	28	B	48	D	68	D	88	D
9	B	29	A	49	D	69	D	89	C
10	D	30	A	50	B	70	A	90	D
11	C	31	D	51	A	71	B	91	D
12	B	32	C	52	D	72	D	92	A
13	C	33	A	53	A	73	D	93	B
14	A	34	D	54	A	74	A	94	B
15	C	35	C	55	B	75	B	95	C
16	C	36	B	56	D	76	B	96	C
17	D	37	A	57	C	77	C	97	C
18	A	38	A	58	B	78	C	98	D
19	C	39	C	59	C	79	B	99	B
20	B	40	B	60	A	80	D	100	C

SVSU Recrutment Examination 2019 Loaded Key Sheet for : 35 - Skill Assistant Professor (Mathematics) , Set Code : B									
Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1	C	21	B	41	C	61	D	81	A
2	D	22	A	42	A	62	D	82	B
3	A	23	A	43	C	63	A	83	B
4	C	24	C	44	B	64	B	84	C
5	B	25	B	45	D	65	B	85	C
6	A	26	A	46	C	66	C	86	C
7	D	27	B	47	B	67	C	87	D
8	B	28	C	48	C	68	B	88	B
9	A	29	B	49	A	69	D	89	C
10	B	30	A	50	C	70	C	90	A
11	C	31	B	51	D	71	A	91	D
12	D	32	C	52	C	72	B	92	A
13	B	33	D	53	A	73	C	93	A
14	A	34	D	54	B	74	B	94	B
15	A	35	B	55	B	75	D	95	D
16	D	36	B	56	D	76	A	96	C
17	C	37	A	57	D	77	D	97	B
18	A	38	D	58	D	78	C	98	C
19	D	39	D	59	A	79	D	99	A
20	C	40	C	60	B	80	D	100	A

SVSU Recrutment Examination 2019 Loaded Key Sheet for : 35 - Skill Assistant Professor (Mathematics) , Set Code : C									
Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1	B	21	D	41	A	61	C	81	A
2	A	22	D	42	C	62	B	82	B
3	A	23	B	43	B	63	D	83	D
4	D	24	B	44	A	64	A	84	C
5	C	25	A	45	D	65	D	85	B
6	A	26	D	46	B	66	C	86	C
7	D	27	D	47	A	67	D	87	A
8	C	28	C	48	B	68	D	88	A
9	B	29	C	49	C	69	A	89	D
10	A	30	A	50	D	70	B	90	C
11	A	31	C	51	A	71	B	91	A
12	C	32	B	52	B	72	C	92	B
13	B	33	D	53	B	73	C	93	B
14	A	34	C	54	C	74	C	94	D
15	B	35	B	55	C	75	D	95	D
16	C	36	C	56	B	76	B	96	D
17	B	37	A	57	D	77	C	97	A
18	A	38	C	58	C	78	A	98	B
19	B	39	C	59	A	79	D	99	D
20	C	40	D	60	B	80	A	100	D

SVSU Recrutment Examination 2019 Loaded Key Sheet for : 35 - Skill Assistant Professor (Mathematics) , Set Code : D									
Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1	C	21	B	41	A	61	B	81	A
2	B	22	D	42	A	62	C	82	B
3	A	23	C	43	D	63	C	83	B
4	B	24	B	44	C	64	C	84	D
5	C	25	C	45	A	65	D	85	D
6	B	26	A	46	D	66	B	86	D
7	A	27	C	47	C	67	C	87	A
8	B	28	C	48	B	68	A	88	B
9	C	29	D	49	A	69	D	89	D
10	D	30	A	50	A	70	A	90	D
11	D	31	C	51	C	71	A	91	A
12	B	32	B	52	B	72	B	92	B
13	B	33	A	53	D	73	D	93	B
14	A	34	D	54	A	74	C	94	C
15	D	35	B	55	D	75	B	95	C
16	D	36	A	56	C	76	C	96	B
17	C	37	B	57	D	77	A	97	D
18	C	38	C	58	D	78	A	98	C
19	A	39	D	59	A	79	D	99	A
20	C	40	B	60	B	80	C	100	B