PROVISIONAL ANSWER KEY

Question Paper Code:	44/2017/OL
Category Code:	315/2015
Exam:	HSST(Jr) Mathematics NCA
Medium of Question:	English
Date of Test	02-06-2017
Department	Higher Secondary Education
Alphacode	A

Question1:-Who wrote the book namely 'Kristhu sahasra namam' ?
A:-Pambadi John Joseph
B:-Chattampi Swamikal
C:-C. Kesavan
D:-Chavara Kuriakkose Elias Achan
Correct Answer:- Option-C

Question2:-Silvassa is the capital city of
A:-Daman and Diu
B:-Puducherry
C:-Dadra Nagar Haveli
D:-Mizoram
Correct Answer:- Option-C

Question3:-Brian Acton and Jan Koum are the founders of popular mobile app namely
A:-WhatsApp
B:-Instagram
C:-Google
D:-Google chrome
Correct Answer:- Option-A

Question4:-Who among the following was the leader of 'Rajadhani March' of 1939 ?
A:-Akkamma Cheriyan
B:-T.M. Varghese
C:-Vakkam Abdulkhadar Maulavi
D:-A.K. Gopalan
Correct Answer:- Option-A

Question5:-'Chenthuruni' wildlife sanctuary is in _____ district of Kerala.
A:-Idukky
B:-Pathanamthitta
C:-Kollam
D:-Ernakulam
Correct Answer:- Option-C

Question6:-Which was the main centre of Kallumala Samaram of 1915 led by Ayyankali ?
A:-Venganoor
B:-Perinad
C:-Panmana
D:-Vanchiyoor
Correct Answer:- Option-B

Question7:-'Yudh Abhyas 2016' is the joint military training exercise between India and
A:-France
B:-Japan
C:-Korea
D:-USA
Correct Answer:- Option-D

Question8:-'Changampuzha; Nakshathrangalude Snehabhajanam' is the book written by
A:-K.P. Appan
B:-M.K. Sanu
C:-M. Leelavathi
D:-N. Krishnapillai
Correct Answer:- Option-B

Question9:-'Oneirology' is the study of

A:-Dreams
B:-Beauty of human
C:-Birds
D:-Fashion
Correct Answer:- Option-A

Question10:-'Thiruvithamkoor Rashtreeya Mahasabha' was founded under the leadership of
A:-Dr. Velukkutty Arayan
B:-T.K. Madhavan
C:-Pandit Karuppan
D:-G.P. Pillai
Correct Answer:- Option-A

Question11:-'He who has a taste for every sort of knowledge and who is curious to learn and is never satisfied may be justly termed a philosopher', was quoted by
A:-Rousseau in 'Emile'
B:-John Dewey in 'Freedom and Culture'
C:-Plato in 'The Republic'
D:-Aristotle in 'Aristotle on Education'
Correct Answer:- Option-C

Question12:-Role playing is developed by using
A:-Micro teaching
B:-Simulation technique
C:-Interaction analysis
D:-All the above
Correct Answer:- Option-B

Question13:-Anecdotal record techniques is used in
A:-Measurement
B:-Evaluation
C:-Examinations
D:-None of these
Correct Answer:- Option-B

Question14:-Good teachers are known not for the fund of knowledge they possess but for their
A:-Astute sense of wit and wisdom
B:-Awe-inspiring personality
C:-Warm and close relationship with their students
D:-Enviable teaching methodology
Correct Answer:- Option-D

Question15:-To raise the standard of education, it is necessary
A:-To evaluate students continuously
B:-To give high salary to teachers
C:-To revise curriculum
D:-To make good school building
Correct Answer:- Option-A

Question16:-A survey design that collects consensus opinions of Panel of experts and the judgement is known as
A:-Historical method
B:-Case study method
C:-Delphi technique
D:-Interview method
Correct Answer:- Option-C

Question17:-If you find someone else publishes work similar to yours before your project is completed, what could you do ?
A:-There is nothing you can do so do not mention it in your study
B:-Completely revamp your ideas so you are not replicating it in your study
C:-Acknowledge it in your report and evaluate the study
D:-Present report after making some changes in your hypothesis and aims
Correct Answer:- Option-C

Question18:-A technique of building up a list or a sample of a special population by using an initial set of members as informants is called
A:-Quota sampling
B:-Snowball sampling
C:-Convenience sampling

D:-Purposive sampling

Correct Answer:- Option-B

Question19:-From research viewpoint seminars, conferences, symposia, workshops etc. whether national or international are the finest forums for

A:-Scientific interaction among professionals

B:-Social interaction among like-minded individuals

C:-Gathering latest knowledge on a research problem

D:-Locating, research problems in a field of knowledge

Correct Answer:- Option-D

Question20:-The methods of statistics which is used to derive conclusion about the characteristics of the whole with the help of data is called

A:-Derivative statistics

B:-Descriptive statistics

C:-Narrative statistics

D:-None of them

Correct Answer:- Option-A

Question21:-Which article of the constitution is known as necessary evil ?

A:-Article 17

B:-Article 15

C:-Article 32

D:-Article 22

Correct Answer:- Option-D

Question22:-Which amendment of the constitution lowered voting age from 21 to 18 ?

A:-`42^(nd)`

B:-`44^(th)`

C:-`61^(st)`

D:-`69^(th)`

Correct Answer:- Option-C

Question23:-When a constitution amendment bill is sent to the president of India, he

A:-has to sign it

B:-may return it for reconsideration

C:-may veto it

D:-may refer it to Supreme Court for advice

Correct Answer:- Option-A

Question24:-How can a member of the U.P.S.C. be removed from service ?

A:-only by the president of India

B:-only by impeachment

C:-on reaching the age of 60 (sixty)

D:-none of the above

Correct Answer:- Option-A

Question25:-Parliament can legislate in which of the following ?

A:-actionable wrongs

B:-bankruptcy and insolvency

C:-trust and trustees

D:-all of the above

Correct Answer:- Option-D

Question26:-Under prevention of children from Sexual Offences Act, child means

A:-a person under 18 years of age

B:-a person under 14 years of age

C:-a person under 16 years of age

D:-none of the above

Correct Answer:- Option-A

Question27:-According to sexual harassment of women at work place (prevention, prohibition and redressal) Act, 2013, for non compliance with the provisions of the Act, employer is liable to a fine of

A:-Rs. 20,000

B:-Rs. 50,000

C:-Rs. 1,00,000

D:-None of the above

Correct Answer:- Option-B

Question28:-In order to take organ for donation from a person who has under gone brain death

A:-two certifications are required from any two doctors six hours apart

B:-three certifications are required from three neurologists 4 hours apart

C:-two certifications are required 6 hours apart from doctors nominated by government and two must be neurologists

D:-none of the above

Correct Answer:- Option-C

Question29:-National Rural Employment Guarantee Act was passed in the year

A:-2006

B:-2007

C:-2008

D:-2005

Correct Answer:- Option-D

Question30:-Which among the following is a flow of polluter pay principle ?

A:-there is ambiguity in determining who is a polluter

B:-a large number of poor house holds, informal sector firms and subsistence farmers cannot bear any additional charges for waste disposal

C:-small and medium size firms from formal sector, find it difficult to pass on higher costs to domestic end users of the product

D:-all of the above

Correct Answer:- Option-D

Question31:-The complete bipartite graph `K_(7,5)` has

A:-2 edges

B:-12 edges

C:-35 edges

D:-`7^(5)` edges

Correct Answer:- Option-C

Question32:-Area of the ellipse `(x^(2))/(25)+(y^(2))/(16)=1` is

A:-20`Pi`

B:-`(320)/(3)pi`

C:-`(400)/(3)pi`

D:-400`Pi`

Correct Answer:- Option-A

Question33:-Perimeter of the cardioid r = 1 – cos`Theta` is

A:-1

B:-2

C:-4

D:-8

Correct Answer:- Option-D

Question34:-Area of the surface generated by revolving the curve y = x about the x-axis from x = 0 to x = 1 is

A:-2`pi`

B:-`2sqrt(2)pi`

C:-`sqrt(2)pi`

D:-`4pi`

Correct Answer:- Option-B

Question35:-In Boolean algebra the law a+(a*b)=a is known as

A:-idempotent law

B:-distributive law

C:-boundedness law

D:-absorption law

Correct Answer:- Option-D

Question36:-Transcendence of e was proved by

A:-Euler

B:-Cauchy

C:-Euclid

D:-Hermite

Correct Answer:- Option-D

Question37:-Which of the following is false ?

A:-`2^(13)-=1(mod3)`

B:-`3^(13)-=1(mod2)`

C:-`13^(2)-=1(mod3)`

D:-`13^(3)-=1(mod2)`
Correct Answer:- Option-A
Question38:-Equation of the tangent to the circle `x^(2)+y^(2)=1` at `((1)/(sqrt(2)),(1)/(sqrt(2)))` is
A:-x+y=1
B:-`x+y=(1)/(sqrt(2))`
C:-`x+y=sqrt(2)`
D:-x–y=1
Correct Answer:- Option-C
Question39:-Degree of the field extension `Q(sqrt(3)+sqrt(2))` over `Q(sqrt(3))` is
A:-1
B:-2
C:-3
D:-4
Correct Answer:- Option-B
Question40:-Number of subgroups of `ZZ_(18)` is
A:-2
B:-3
C:-6
D:-18
Correct Answer:- Option-C
Question41:-Which of the following function `f:RR->RR` is not a permutation ?
A:-`f(x)=x+1`
B:-`f(x)=x-1`
C:-`f(x)=x^(2)-1`
D:-`f(x)=x^(3)-1`
Correct Answer:- Option-C
Question42:-Set of all integers `ZZ` is
A:-an integral domain but not a field
B:-a division ring but not a field
C:-a strictly skew field but not a field
D:-a division ring but not an integral domain
Correct Answer:- Option-A
Question43:-Number of generators of `ZZ_(20)` is
A:-1
B:-2
C:-4
D:-8
Correct Answer:- Option-D
Question44:-Let `RR` be the ring of real numbers. Units of `RR` are
A:-0
B:-elements of `RR-{0} `
C:-1
D:-elements of `RR-{1}`
Correct Answer:- Option-B
Question45:-Which of the following is false ?
A:-Every integral domain is a field
B:-Every field is an integral domain
C:-It p is a prime, then `ZZ_(p)` is a field
D:-Every finite integral domain is a field
Correct Answer:- Option-A
Question46:-The remainder of `3^(50)` when divided by 13 is
A:-6
B:-9
C:-3
D:-0
Correct Answer:- Option-B
Question47:-`nnn_(n=1)^oo((-1)/(n),(1)/(n))` =
A:-[–1, 1]
B:-{0}

C:-`Phi`
D:-(0, 1)
Correct Answer:- Option-B
Question48:-`lim_(n->oo)` `(1+(log_(e)^(2))/(n))^(n)`=
A:-1
B:-2
C:-`e^(2)`
D:-`log_(e)^(2)`
Correct Answer:- Option-B
Question49:-Let g(x)=|cosx|. Then
A:-g(x) is nowhere differentiable
B:-g(x) is everywhere differentiable
C:-g(x) is differentiable everywhere except x = n`Pi`, `ninZZ`
D:-g(x) is differentiable everywhere except `x=(2n+1)Pi/2`, `ninZZ`
Correct Answer:- Option-D
Question50:-
Let $f(x)=\begin{cases} x^2\sin\frac{1}{x}, & \text{if } x\neq 0 \\ 0, & \text{otherwise} \end{cases}$

Then :
A:-f is differentiable at all points, but f' is not a continuous function
B:-f is not differentiable but it is continuous
C:-f is neither differentiable nor continuous
D:-f is differential and f' is continuous
Correct Answer:- Option-A
Question51:-`int_0^ooe^(-x^(2))dx=`
A:-1
B:-`(Pi)/(2)`
C:-`(sqrt(Pi))/(2)`
D:-`pi`
Correct Answer:- Option-C
Question52:-Bolzano-Weierstrass theorem
A:-Every convergent sequence of real numbers is bounded
B:-A bounded sequence of real numbers has a convergent subsequence
C:-Every sequence of real numbers has a convergent subsequence
D:-A sequence of non-negative real numbers is bounded if and only if it is convergent
Correct Answer:- Option-B
Question53:-`lim_(x->0)` `((1-cosx)sinx)/(x^(2)+x^(3))=`
A:-–1
B:-0
C:-`1/2`
D:-1
Correct Answer:- Option-C
Question54:-`i^(321)+(1)/(i^(123))=`
A:-0
B:-2
C:-2i
D:-1 – i
Correct Answer:- Option-C
Question55:-|z+3i| + |z–3i| = 8 represents
A:-a straight line
B:-a circle
C:-a hyperbola
D:-an ellipse
Correct Answer:- Option-D
Question56:-Harmonic conjugate of `u(x,y)=x^(2)-y^(2)` is
A:-`v(x, y)=x^(2)+y^(2)`
B:-`v(x, y)=(x+y)^(2)`
C:-`v(x, y)=(x-y)^(2)`

D:-`v(x, y)=2 xy`

Correct Answer:- Option-D

Question57:-Let C be the positively oriented circle |z| = 4. Then `oint_(C)(z^(2)dz)/(z-1)+oint_(C)(z^(2)dz)/((z-1)^(2))=`

A:-`6pii`

B:-`2pii`

C:-`pii`

D:-0

Correct Answer:- Option-A

Question58:-If f(z) is continuous in a simply connected domain D and if `oint_(C)f(z)dz=0` for every closed path in D, then f(z) is analytic in D

A:-Liouville's theorem

B:-Morera's theorem

C:-Cauchy's integral theorem

D:-Cauchy's integral formula

Correct Answer:- Option-B

Question59:-The radius of convergence of the power series `sum_(n=0)^oo``((2n)!)/((n!)^(2))(z-2)^(n)` is

A:-0

B:-`1/4`

C:-`1/2`

D:-`oo`

Correct Answer:- Option-B

Question60:-At z = 0, the function `f(z)=e^((1)/(z))` has

A:-a removable singularity

B:-a simple pole

C:-an essential singularity

D:-no singular point

Correct Answer:- Option-C

Question61:-Let `f(z)=(1-cosz)/(z^(5))` . Then f(z) has

A:-a pole of order 3 and residue `(-1)/(24)` at z = 0

B:-a pole of order 5 and residue `(-1)/(24)` at z = 0

C:-a pole of order 3 and residue `(1)/(5)` at z = 0

D:-a pole of order 5 and residue `(1)/(5)` at z = 0

Correct Answer:- Option-A

Question62:- $\operatorname{Res}_{z=3i} \frac{z+1}{z^2+9} =$

A:-`(3+i)/(6)`

B:-`(3-i)/(6)`

C:-`(1+3i)/(9)`

D:-`(1-3i)/(9)`

Correct Answer:- Option-B

Question63:-Which of the following is false ?

A:-Every order topology is Hausdorff

B:-Subspace of a Hausdorff space is Hausdorff

C:-Every Hausdorff space is normal

D:-Product of two Hausdorff space is Hausdorff

Correct Answer:- Option-C

Question64:-Deleted comb space is

A:-connected and path connected

B:-connected but not path connected

C:-not connected but path connected

D:-neither connected nor path connected

Correct Answer:- Option-B

Question65:-Which of the following need not be a normal space ?

A:-product of two normal spaces

B:-a metrizable space

C:-a compact Hausdorff space

D:-a regular space with a countable basis

Correct Answer:- Option-A

Question66:-Which of the following is false ?

A:-the one point compactification of the real line `RR` is homeomorphic to an ellipse

B:-the one point compactification of the open interval (0, 1) is homeomorphic to closed interval [0, 1]

C:-the one point compactification of the open interval (0, 1) is homeomorphic to the circle `S^(1)`

D:-the one point compactification of `RR^(2)` is homeomorphic to the sphere `S^(2)`

Correct Answer:- Option-B

Question67:-Which of the following is not a topological property ?

A:-length and area

B:-connectedness

C:-continuity

D:-compactness

Correct Answer:- Option-A

Question68:-Let d be a metric defined on `RR` by

$$d(a,b)=\begin{cases}0, & \text{if } a=b\\ 1, & \text{if } a\neq b\end{cases}$$

Then

A:-d is a pseudo metric on `RR`

B:-d is the usual metric on `RR`

C:-d is the Euclidean metric on `RR`

D:-d is the trivial metric on `RR`

Correct Answer:- Option-D

Question69:-Which of the following is not a basis for `RR^(3)` ?

A:-`{(1, 1, 1), (1, 1, 0), (1, 0, 0)}`

B:-`{(1, 1, 1), (0, 1, 1), (1, 0, 0)}`

C:-`{(1, 1, 1), (0, 1, 1), (0, 0, 1)}`

D:-`{(1, 0, 0), (0, 1, 0), (0, 0, 1)}`

Correct Answer:- Option-B

Question70:-Let `T : RR^(3)->RR^(3)` be a map defined on `RR^(3)` . Then which of the following is not a linear transformation ?

A:-T (x, y, z) = (y, x, 0)

B:-T (x, y, z) = (x + y, y + z, z + x)

C:-T (x, y, z) = (xy, yz, xz)

D:-T (x, y, z) = (0, 0, 0)

Correct Answer:- Option-C

Question71:-Let `P_(5)(x)` be the set of all real polynomials of degree `<= ` 5.Then dimension of the vector space `P_(5)(x)` over `RR` is``

A:-0

B:-1

C:-5

D:-6

Correct Answer:- Option-D

Question72:-Let `T:RR^(4)->RR^(5)` be defined by `T(x_(1),x_(2),x_(3),x_(4))=(x_(1),x_(2),x_(3),x_(4),0)` Then the dimension of the null space is

A:-`n(T)=0`` `

B:-` ``n(T)=1`

C:-` ``n(T)=4`

D:-` ``n(T)=5`

Correct Answer:- Option-A

Question73:-Characteristic polynomial of `[[1, -1, 0],[0, 1, -1],[-1, 0, 1]]` is

A:-`lambda^(3)+3lambda^(2)+3Lambda+1=0`

B:-`lambda^(3)-3lambda^(2)+3Lambda-1=0`

C:-`lambda^(3)-3lambda^(2)+3Lambda-2=0`

D:-`lambda^(3)-3lambda^(2)+3Lambda=0`

Correct Answer:- Option-D

Question74:-Let `2x+y-z=4`
`x+3y+2z=1`
`3x+4y+z=5`

The above system of equation is

A:-homogeneous and consistent

B:-nonhomogeneous and inconsistent
C:-consistant and has unique solution
D:-consistant and has infinite solution
Correct Answer:- Option-D

Question75:-Which of the following map `T:RR^(3)->RR` is a linear functional ?
A:-`T(x,y,z)=5`
B:-`T(x, y, z) = x^(2)`
C:-`T(x,y,z)=-2x+y`
D:-`T(x,y, z)=xy+6`
Correct Answer:- Option-C

Question76:-Let V be a vector of dimension 15 over a field F and W be a subspace of V. If dim W = 3, then `dim(V//W)=`
A:-3
B:-5
C:-8
D:-12
Correct Answer:- Option-D

Question77:-An `nxxn` matrix is diagonalizable if
A:-all the eigen values are real and distinct
B:-all the eigen values are real and non-negative
C:-all the eigen values are real and non-zero
D:-all the eigen values are non-zero rational numbers
Correct Answer:- Option-A

Question78:-Let `1<=p<r<oo` and let `x inl^(p)` with `||x||_(p)<=1` . Then the inequality `||x||_(r)<=||x||_(p)` is called
A:-Minkowski's inequality
B:-Jensen's inequality
C:-Cauchy's inequality
D:-Bessel's inequality
Correct Answer:- Option-B

Question79:-Which of the following is false ?
A:-`l^(p)` is a Hilbert space, where `1<=p<=oo`
B:-Closed subspace of a Hilbert space is a Hilbert space
C:-The quotient of a Hilbert space by one of its closed subspace is again a Hilbert space
D:-A complete normed space with its norm satisfies the parallelogram law is a Hilbert space
Correct Answer:- Option-A

Question80:-Let A`in`BL(H) and A* be the adjoint of A. A is unitary if
A:-AA* = A*A
B:-AA* `!=` A*A
C:-A* = `A^(-1)`
D:-A* = A
Correct Answer:- Option-C

Question81:-Which of the following is not a Banach space ?
A:-Finite dimensional normed spaces
B:-`l^(p)` with norm `||` `||_(p)`, where `1<= p<=oo `
C:-`C_(00)`
D:-`L^(p)(E)` with the norm `||` `||_(p)`, where E is a Lebesgue measurable subset of `RR` and `1<=p<=oo`
Correct Answer:- Option-C

Question82:-Let X be an inner product space and let x, y `in` X. Then the parallelogram law is
A:-`||x+y||^(2)+||x-y||^(2)=2(||x||^(2)+||y||^(2))`
B:-`||x+y||^(2)+||x-y||^(2)=||x||^(2)+||y||^(2)`
C:-`||x+y||<=||x+z||+||z+y||`
D:-`sqrt(||x||^(2)+||y||^(2))<=||x+y||`
Correct Answer:- Option-A

Question83:-Let X and Y be normed spaces and F : X `->` Y be a linear map. The following conditions are equivalent except one. Which of the following is not equivalent to others ?
A:-F is continuous at 0
B:-F is continuous on X
C:-`a||x||<=||F(x)||`, for all x`in`X and some a > 0
D:-F is uniformly continuous on X
Correct Answer:- Option-C

Question84:-If a, b, c are the roots of the equation `x^(3)+px^(2)+qx+r=0`, then `1/a+1/b+1/c=`

A:-`(-q)/(r)`

B:-`(p)/(r)`

C:-`(-p)/(r)`

D:-`p/q`

Correct Answer:- Option-A

Question85:-The vector projection of $\bar{B} = \hat{i} + \hat{j} + \hat{k}$ onto $\bar{A} = 5\hat{j} - 3\hat{k}$ is

A:-$\hat{i} + 6\hat{j} - 2\hat{k}$

B:-$\hat{i} - 4\hat{j} + 4\hat{k}$

C:-$\frac{1}{\sqrt{3}}(5\hat{j} - 3\hat{k})$

D:-$\frac{1}{17}(5\hat{j} - 3\hat{k})$

Correct Answer:- Option-D

Question86:-`(d)/(dx)sinh^(-1)(x)=`

A:-`(1)/(sqrt(1-x^(2)))`

B:-`(1)/(sqrt(1+x^(2)))`

C:-`(1)/(sqrt(x^(2)-1))`

D:-`(1)/(1+x^(2))`

Correct Answer:- Option-B

Question87:-Equation of the tangent at the point `(x_(1),y_(1))` on the parabola `y^(2)=4ax` is

A:-`yy_(1)=2a(x+x_(1))`

B:-`y-y_(1)=4a(x-x_(1))`

C:-`y=y_(1)/x_(1)(x-2a)`

D:-y = 2ax

Correct Answer:- Option-A

Question88:-Rank of the matrix `[[3, 4, 1], [-2, 3, 2], [5, 1, -1]]` is

A:-0

B:-1

C:-2

D:-3

Correct Answer:- Option-C

Question89:-`lim_((x,y)->(0,0)` `((5x^(2)y)/(2x^(4)+y^(2)))=`

A:-0

B:-`5/3`

C:-`5/2`

D:-limit does not exist

Correct Answer:- Option-D

Question90:-Let `f(x)=x^(3)-12x+9`. Then f(x) has a local maximum at

A:-x = 0

B:-x = 3

C:-x = 2

D:-x = –2

Correct Answer:- Option-D

Question91:-Let `W=x^(2)+y^(2)` , x = r – S and y = r + S. Then the partial derivative of W with respect to S is

A:-`(delW)/(delS)=1`

B:-`(delW)/(delS)=2S`

C:-`(delW)/(delS)=4S`

D:-`(delW)/(delS)=2r`

Correct Answer:- Option-C

Question92:-Solution of the differential equation `(d^(2)y)/(dx^(2))-6dy/dx+13y=0` is

A:-`Ae^(3x)+Be^(2x)`

B:-`e^(3x)(Acos2x+Bsin2x)`
C:-Acos2x + Bsin2x
D:-`Ax^(2)+Bx^(3)`
Correct Answer:- Option-B

Question93:-Solution of the equation `(1+2xy+y^(2))dx+(1+2xy+x^(2))dy=0` is
A:-`x+x^(2)y+xy^(2)+y=k`
B:-`x+2x^(2)y+2xy^(2)+y=k`
C:-`4x+4y=k`
D:-`1+2xy+x^(2)+y^(2)=k`
Correct Answer:- Option-A

Question94:-Let `f(x)=sum_(n=1)^oob_(n)sinnx` be the Fourier series of f(x) = x in the interval `[-pi, Pi]` . Then `b_(n)=`
A:-0
B:-`(1)/(n)`
C:-`(-1)^(n)/(n^(2))`
D:-`(2(-1)^(n+1)^)/(n)`
Correct Answer:- Option-D

Question95:-Laplace transform of `e^(at)sinbt` is
A:-`(s)/(s^(2)+b^(2))`
B:-`(s-a)/((s-a)^(2)+b^(2))`
C:-`b/((s-a)^(2)+b^(2))`
D:-`b/((s-a)^(2)-b^(2))`
Correct Answer:- Option-C

Question96:-Two dimensional Laplace equation is
A:-`(del^(2)u)/(delt^(2))=c^(2)(del^(2)u)/(delx^(2))`
B:-`(del^(2)u)/(delx^(2))+(del^(2)u)/(dely^(2))=0`
C:-`(del^(2)u)/(delx^(2))+(del^(2)u)/(dely^(2))=f(x,y)`
D:-`(delu)/(delt)=c^(2)(del^(2)u)/(delx^(2))`
Correct Answer:- Option-B

Question97:-Value of the Beta function at `(1/2,1/2)` is
A:-`beta(1/2,1/2)=Pi`
B:-`beta(1/2,1/2)=sqrt(Pi)`
C:-`beta(1/2,1/2)=(Pi)/(2)`
D:-`beta(1/2,1/2)=1`
Correct Answer:- Option-A

Question98:-Value of the Riemann Zeta function `zeta`(s) at s = 2 is
A:-`zeta(2)=1`
B:-`zeta(2)=2!`
C:-`zeta(2)=Pi/2`
D:-`zeta(2)=(Pi^(2))/(6)`
Correct Answer:- Option-D

Question99:-Let $\overline{T}, \overline{N}, \overline{B}$ and k be unit tangent vector, principal unit normal vector, binormal vector and curvature respectively. Then

A:-$\overline{B} = \overline{T} \times \overline{N}$

B:-$\overline{B} = \frac{1}{k}\frac{d\overline{T}}{ds}$

C:-$\overline{B} = \frac{d\overline{N}}{dt}$

D:-$\overline{B} = \frac{d\overline{N}}{ds} \times \frac{d\overline{T}}{ds}$

Correct Answer:- Option-A

Question100:-Let A and B be fuzzy subsets of a crisp set X. If `mu_(A)(x)` and `mu_(B)(x)`` ` are the membership value of x in A and B respectively, then which of the following gives a membership value of x in `AnnB`
A:-`max{mu_(A)(x), mu_(B)(x)}`
B:-`mu_(A)(x)+ mu_(B)(x)-mu_(A)(x)mu_(B)(x)`
C:-`min{mu_(A)(x), mu_(B)(x)}`
D:-`1-mu_(A)(x)mu_(B)(x)`

Correct Answer:- Option-C