AM-112-0... > Quizzes > Lecture 12... > Test Student Lecture 12 Activity Results for Test Student Account (6) Score for this attempt: 1 out of 1 Dashboard Submitted Feb 15 at 8:53am This attempt took 3 minutes. Courses / 1 pts 1 Question 1 Groups Consider the BVP Calendar  $\left\{egin{aligned} u_{xx} &= \sum_{n=1}^\infty e^{-n}\sin(rac{n\pi}{L}x), & x\in(0,L)\ u(0) &= 0, & u(L) &= 0 \end{aligned}
ight..$ 固 Inbox What is the solution? History Course  $u(x)=\sum_{n=1}^{\infty}rac{1}{(rac{n\pi}{r})^2}e^{-n}\sin(rac{n\pi}{L}x)$ Material Website  $u(x)=\sum_{n=1}^{\infty}rac{1}{1+(rac{n\pi}{L})^2}e^{-n}\sin(rac{n\pi}{L}x)$ Commons **Correct!** Help  $\bullet \ \ u(x) = -\sum_{n=1}^{\infty} rac{1}{(rac{n\pi}{r})^2} e^{-n} \sin(rac{n\pi}{L}x)$ Resources • The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** 0 / 0 pts **Question 2** Consider the BVP  $egin{cases} u_{xx} = 3u - \sum_{n=1}^{\infty} e^{-n} \sin(rac{n\pi}{L}x), & x \in (0,L) \ u(0) = 0, & u(L) = 0 \end{cases}.$ What is the solution?  $0 \quad u(x) = \sum_{n=1}^{\infty} rac{1}{(rac{n\pi}{r})^2} e^{-n} \sin(rac{n\pi}{L} x)$  $u(x)=-\sum_{n=1}^{\infty}rac{1}{3+(rac{n\pi}{L})^2}e^{-n}\sin(rac{n\pi}{L}x)$ Correct!  $u(x)=\sum_{n=1}^{\infty}rac{1}{3+(rac{n\pi}{L})^2}e^{-n}\sin(rac{n\pi}{L}x)$ • The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** / 0 pts 0 **Question 3** Consider the BVP  $egin{cases} u_{xx}+u_{yy}=-\sin(rac{\pi}{H}y)\sum_{n=1}^{\infty}e^{-n}\sin(rac{n\pi}{L}x),\ (x,y)\in(0,L) imes(0,H) &.\ y(0,y)=0,\ y(L,y)=0\ y(x,0)=0,\ y(x,H)=0 \end{cases}$ What is the solution?  $0 \quad u(x,y) = \sin(rac{\pi}{H}y) \sum_{n=1}^{\infty} rac{1}{1+(rac{n\pi}{L})^2} e^{-n} \sin(rac{n\pi}{L}x)$  $0 \quad u(x,y) = -\sin(rac{\pi}{H}y)\sum_{n=1}^{\infty}rac{1}{(rac{\pi}{L})^2+(rac{n\pi}{L})^2}e^{-n}\sin(rac{n\pi}{L}x)$ Correct!  $u(x,y)=\sin(rac{\pi}{H}y)\sum_{n=1}^{\infty}rac{1}{(rac{\pi}{L})^2+(rac{n\pi}{L})^2}e^{-n}\sin(rac{n\pi}{L}x)$ The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** 0 / 0 pts **Question 4** Consider the BVP  $egin{cases} u_{xx}+u_{yy}=-\sum_{n=1}^{\infty}e^{-n}\sin(rac{n\pi}{L}x),\ (x,y)\in(0,L) imes(0,H)\,.\ y(0,y)=0,\ y(L,y)=0\ y(x,0)=0,\ y(x,H)=0 \end{cases}$ What is the solution?  $0 \quad u(x,y) = \sum_{n=1}^{\infty} rac{1}{(rac{n\pi}{L})^2} e^{-n} \sin(rac{n\pi}{L}x)$  $\bigcirc \ u(x,y) = -\sum_{n=1}^{\infty} rac{1}{(rac{\pi}{L^{\prime}})^2 + (rac{n\pi}{L})^2} e^{-n} \sin(rac{n\pi}{L}x)$  $\bigcirc \ u(x,y) = \sum_{n=1}^{\infty} rac{1}{(rac{\pi}{\iota x})^2 + (rac{n\pi}{L})^2} e^{-n} \sin(rac{n\pi}{L}x)$ **Correct!** • The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** / 0 pts 0 **Question 5** Consider the BVP  $\left\{egin{aligned} u_{xx}=-2, & x\in(0,L)\ u_x(0)=0, & u_x(L)=0 \end{aligned}
ight.$ Be careful about the BCs. What is the solution?  $u(x) = -x^2$  $\bigcirc \ u(x) = -(L-x)^2$  $\bigcirc \ u(x) = x(L-x)$ The BVP has a solution but it is none of the expressions listed. Correct! The BVP does not have a solution. **Additional Comments:** 0 / 0 pts **Question 6** Consider the BVP  $\left\{egin{aligned} u_{xx} = -\sin(rac{\pi}{L}x), & x \in (0,L) \ u_x(0) = 0, & u_x(L) = 0 \end{aligned}
ight..$ Be careful about the BCs. What is the solution?  $\bigcirc \ u(x) = rac{L^2}{(\pi)^2} \mathrm{sin}(rac{\pi}{L}x)$  $u(x) = \frac{L}{\pi} \cos(\frac{\pi}{L}x)$  $\bigcirc \ u(x) = rac{L}{\pi} \Big( \cos(rac{\pi}{L} x) - 1 \Big)$ The BVP has a solution but it is none of the expressions listed. Correct! The BVP does not have a solution. **Additional Comments:** / 0 pts 0 **Question 7** Consider the BVP  $\left\{egin{aligned} u_{xx} = -\sin(rac{\pi}{L}x), & x \in (0,L) \ u_x(0) = 0, & u(L) = 0 \end{aligned}
ight..$ Be careful about the BCs. What is the solution?  $u(x)=rac{L^2}{(\pi)^2} ext{sin}(rac{\pi}{L}x)$  $u(x) = rac{L}{\pi} \cos(rac{\pi}{L}x)$  $u(x) = rac{L}{\pi} \Big( \cos(rac{\pi}{L}x) + 1 \Big)$ Correct! • The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** / 0 pts 0 **Question 8** Consider the BVP  $\left\{egin{aligned} u_{xx}=u-2, & x\in(0,L)\ u_x(0)=0, & u_x(L)=0 \end{aligned}
ight..$ Be careful about the BCs and the RHS of ODE. What is the solution?  $u(x) = -x^2$  $\bigcirc \ u(x) = -(L-x)^2$  $\bigcirc \ u(x) = x(L-x)$ Correct! u(x)=2• The BVP has a solution but it is none of the expressions listed. The BVP does not have a solution. **Additional Comments:** Fudge Points: You can manually adjust the score by adding positive or negative points to this box. **Update Scores** Final Score: 1 out of 1 Here's the latest quiz results for Test Student. You can modify the points for any question and add more comments, then click "Update Scores" at the bottom of the page. **Quiz Submissions** Attempt 1: 1 Test Student has 1 attempt left

Allow this student an extra attempt

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